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**Executive Office for
Administration & Finance**

Policy Report: Reconstructing the School Building Assistance Program

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I. Executive Summary

The School Building Assistance Program was created in 1948 to provide municipalities with financial assistance to build schools for the Baby Boom generation. It provided a base reimbursement rate of 33% of the cost of construction for regional schools and 25% for individual school districts adjusted upward based on a community's property wealth. Although originally conceived as a three-year program, the SBA program has been extended many times over the past 50 years. The legislation has never undergone a significant programmatic overhaul, but has been modified various times.

Today, the SBA program offers on average, a 69% reimbursement for the construction and financing costs of school projects. A 90% reimbursement rate is available for school districts with voluntary racial desegregation plans.

The SBA program is financially unsustainable for the Commonwealth and programmatically unresponsive to municipalities in its current form. It must be revamped to meet 21st century needs.

Findings

A 7 month review of the SBA program, existing research, polling of other states, and discussion with various interest groups revealed the following:

- Strong demand for the SBA program will continue as families move from town to town, and because of the age and condition of our building stock.
- The SBA program is a multi-billion dollar construction program – the single largest in the Commonwealth - yet no construction expertise exists in the state project review and approval phase.
- The SBA program has construction, finance, open space, municipal planning, urban revitalization and education aspects but it is run simply as an education program.
- The costs of the SBA program are heavily influenced by enrollment projections developed by the grant applicant, SBA staff discretion on program scope and design, and Massachusetts public construction law.
- To access SBA funds, municipalities must undertake significant construction or renovation projects even if less extensive, or alternative options would be more effective and beneficial.
- Even with Commonwealth contributions of more than $1.7 billion since 1991 (real dollars), there are still 126 projects awaiting funding.
- Without reform, the waiting list will grow by 10 to 12 projects a year even if the Commonwealth continues to fund 58 new projects annually.
- By FY2004, the Commonwealth will be appropriating $450 million annually – almost $200 million more than FY2000 levels.
- Today, the Commonwealth's out-year obligation for SBA projects stands at $6 billion and is growing. By FY2005, we will have a greater outstanding obligation for SBA than we do for our total General Obligation debt, which supports the statewide capital spending program.

Projecting the future of today's program is simple – without a thoughtful, phased-in solution now, tomorrow will bring dramatic change amid an atmosphere of crisis.

Recommendations

Before additional funding for the SBA program is suggested, we must ensure that each dollar already spent purchases an appropriate and cost-effective outcome. In this way, not only will more schools be built within existing resources, but policy makers will be guaranteed that any future investments will be wisely-made. The major recommendations offered here would:

- Make the SBA program permanent by enacting it as general law.
- Establish a School Facilities Commission to approve school building projects reflecting the multi-discipline reality of school construction projects;
- Require a value-engineering review of the design plans for all SBA projects;
- Establish an incentive-based reimbursement formula that rewards municipalities for maintaining schools, pursuing non-construction alternatives and renovations, innovative community uses, use of construction managers, use of stock plans, and seeking third party funds;
- Expand reimbursement to include non-construction alternatives and less extensive renovations;
- Create a pooled borrowing program to minimize the cost of borrowing for municipalities;
- Pursue changes to Massachusetts public construction law such as best-value contract selection and alternative project delivery methods;
- Prospectively move from offering 90% reimbursement for voluntary racial desegregation projects to 90% reimbursement for communities in which the percentage of low-income students is 133% or greater than the statewide average percentage of low-income students.
- Pay off the Major Reconstruction waiting list over 3 years and convert the program to a low interest loan program to encourage building maintenance.
- Make charter schools eligible for SBA grants.

The 34 recommendations offered will change the fundamental structure of the SBA program. Creating a flexible program will ensure the long-term viability of our school construction program and positively affect the education of the Commonwealth's children.

II. Recommendations

1. Make the SBA program permanent by enacting it as general law.

2. Create a new School Facilities Commission such as exists in **Ohio, Maryland, and California** and expand the staff to mirror the make-up of the new Commission.

3. Direct the new School Facilities Commission to rewrite the existing program regulations to eliminate bias towards new construction.

4. Require that schools seeking to take open space for a new school prepare and submit with the SBA application a comprehensive open space plan for the community.

5. Require the Commission to reexamine the acreage recommendations now used, and develop recommendations that consider all of the municipalities' and Commonwealth's needs.

6. Establish a "no net loss" of open space provision for access to SBA funding.

7. Establish a planning process and reporting requirement that municipalities must meet before a school that received state reimbursement is closed or mothballed.

8. Require that all projects proposing to move from a downtown school to a more remote location are reviewed by DHCD.

9. Direct the Commission to conduct a value-engineering review of design plans for all school construction projects. Conduct two reviews for projects over $10 million.

10. The School Facilities Commission should provide training, education, and technical assistance to contractors, subcontractors, designers, municipalities, and others.

11. Seek legislation to employ a quality and price-based process for the selection of general contractors for projects.

12. The Commonwealth should strengthen the connection between past performance, contractor certification, and award of future construction contracts by rewarding excellence and penalizing poor performers.

13. Provide alternative delivery methods such as design/build for some projects. Criteria should be established for selecting project delivery methods such as the need for saving time and the owner's capacity to handle the project.

14. Expand the SBA program to reimburse alternatives to construction. These alternatives, when replacing the need for a new school building, would be reimbursed by the state at the applicant's SBA rate. Such options could include leasing (buildings or modular facilities); tuitioning-out; arrangements with higher education facilities, and other private or not-for-profit entities or use of municipal buildings; year-round schooling; or use of 'swing space'.

15. Remove the requirement that renovation projects must be full building renovations to be included as Category 1 and 2 projects.

16. Create an incentive–based reimbursement formula based on local ability to pay as measured by equalized property values (EQVs) and income.

17. Create a maintenance assessment program and issue ratings of the building conditions for each school district; survey current conditions, develop a model plan, and provide technical assistance and information.

18. Remove the current BOE cap on maintenance spending applicable to Education Reform local spending requirement.

19. Update reimbursement rates to reflect current per capita property and income wealth of communities.

20. Allow the Commission to make certain project cost components separable.

21. Create a new trust that will make pooled debt issuance for SBA projects on behalf of cities and towns.

22. Require districts to notify the SBA Commission of their actual interest rate within 30 days of initial bonding and require the SBA Commission to reimburse at the actual rate and adjust upwards, if necessary, after the final audit has been submitted.

23. Require that municipalities submit notification to the SBA Commission within 30 days of refinancing SBA debt.

24. The SBA Commission should enforce its ability to immediately suspend payments to districts that are late in submitting their final audit.

25. Do not reimburse for the interest costs on interim borrowing for all projects where construction begins before state funds are available excluding life/safety projects and projects for eliminating severe overcrowding.

26. Create a new low interest loan fund for major reconstruction projects.

27. Dedicate up to $50 Million of year-end surplus revenues for each of the next 3 years to pay off the $165 million Major Reconstruction waiting list of 450 projects.

28. The new Commission should develop prototype schools as a guide for allowable grant amounts. Stock plans should be developed from these prototypes and be made available to municipalities.

29. Determine a value for Furnishing and Equipping (F&E) costs for each prototype school and define allowable F&E costs.

30. Prospectively move from providing 90% reimbursement for voluntary racial desegregation projects to providing 90% reimbursement for projects in the state's poorest communities.

31. Charter schools should be eligible to receive SBA funds.

32. The new School Facilities Commission should develop a computer based information system that can track all aspects of construction projects and school facility information.

33. The new School Facilities Commission should develop a formal enrollment projection model or consider using projection models already available.

34. Develop a project priority system that allows safety projects to receive funding priority but also considers the length of time a project has been waiting for funding in establishing the annual funding list.

III. Introduction

The School Building Assistance (SBA) Program has been an integral part of the educational and capital infrastructure of the Commonwealth for over 50 years. This program, created in 1948 to provide financial assistance to cities and towns for the construction of new schools driven by the Baby Boom generation, **remains a necessary and important Commonwealth service**. The Baby Boom generation has long since aged out of our public school system, but the demand for Commonwealth assistance remains strong today. While the program was initially created to address a single massive enrollment spike, the need for such assistance today is multi-faceted. Local budget constraints, population relocation within the state, education policy choices, as well as aging and poorly maintained building stock all drive today's demand for state assistance.

The Commonwealth has been the silent financial partner to the many cities and towns building schools for 50 years. Over the last ten years alone, the Commonwealth's financial commitment to the program has increased dramatically. In FY91 the state appropriated $127 million for school building projects. In FY00, the Cellucci-Swift budget recommended $276 million for school building payments and proposed $311 million for FY01, a 145% increase over ten years. Each year the Commonwealth's financial commitment has increased as program demand has risen. This growing annual commitment drives a 20-year Commonwealth obligation[1]. If the program ended today, the Commonwealth would still owe $4.1 billion for projects receiving payments, and another $2 billion to buy out the waiting list of 126 projects - almost $300 million a year for the next 20 years.

Even with this sizeable and continued commitment, the waiting list for project reimbursement continues to grow. The current waiting list holds 126 projects and is approximately 4 to 5 years long. This year the Commonwealth will provide more than $44 million for the first payments due on 58 new projects. The Department of Education (DOE) estimates that 70 new projects will be added to the list each year into the foreseeable future and very few projects will receive final payment over the next 10 years. Simply to keep the waiting list from growing any larger, the Commonwealth will have to appropriate an additional $55 to $60 million annually to cover the waiting list growth rate of 70 new projects a year.

The School Building Assistance Program in its current form is rapidly becoming unsustainable. By Fiscal Year 2002 this program will achieve "budget buster" status with an annual appropriation of almost $400 million and climbing. With the approaching reauthorization of the SBA program (2003), it is time to begin a thoughtful discussion of the future of School Building Assistance.

This paper will analyze the current and future demand for the SBA program, as well as the structure and administration of the program in an effort to identify improvements that will allow the Commonwealth and our municipalities to continue to meet the needs of its school districts while maintaining a fiscally manageable program.

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[1] SBA reimbursements are not a legal obligation of the Commonwealth as are debt service payments on the Commonwealth's General Obligation debt.

IV. The School Building Assistance Program: 1948 - 1999

A. Scope and Structure

The Baby Boom

In 1948 the School Building Assistance Program was created to fund the classroom needs of the Baby Boom population explosion and to encourage the creation of consolidated or regional school districts. The legislation was filed by the chairs of the Education Committee, Representative J. Philip Howard (R – 2nd Worcester District) and Senator Ralph Collins Mahar (R – Franklin and Hampshire District). In its original conception, the SBA program offered 20% to 55% reimbursements for school construction[2]. (See Section 4 for a further discussion of reimbursement rates).

Figure 1: **The Baby Boom**

The surge in the number of births after World War II, nicknamed the "Baby Boom," lasted through the early 1960s. At the peak in 1957, 4.3 million births were recorded[in the US], an increase of 19 percent from 1948.

In contrast, the "Baby Boom echo," which began in the late 1970s, reached 4.1 million births at its peak in 1990, reflecting a 25 percent increase from 1977. Unlike the decline in the post-Baby Boom era, when births dropped down to 3.1 million in the early 1970s, the number of births in the post-Baby Boom echo era is expected to remain fairly stable at nearly 4 million for about a decade. Long-range projections by the U.S. Bureau of the Census indicate a rising number of births thereafter, from 4.1 million in 2008 to 4.5 million in 2018.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Projections of Education Statistics to 2008; and U.S. Department of Commerce, Bureau of the Census, Population Projections of the United States by Age, Sex, Race, and Hispanic Origin: 1995 to 2050.

Ralph C. Mahar
Senate Committee on Education, Chair

J. Phillip Howard
House Committee on Education, Chair

A five-member School Building Assistance Commission administered the SBA program; the Governor appointed three Commission members, and two were appointed by the Board of Education. The Commission was created within the Department of Education but was not subject to its oversight or control. The Commission hired an executive director for day to day duties. Its main responsibility was to review plans for site, type and adequacy of construction, determine that cost estimates were reasonable and that the project was in the best interest of the city or town.

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[2] The original reimbursement rate was determined by a statutory formula that offered a base reimbursement rate of 25% of construction costs for individual districts and 33% for regional districts, adjusted upward or downward based on a community's property wealth. Financing costs were not reimbursable until 1971.

Once the project received approval from the Commission the municipality would bond or otherwise fund the cost of the project. The State would make grant payments during each year of the indebtedness of the project. The program was to be temporary – it was established for three years after which time the commission would be disbanded and the Treasurer would continue to make out-year payments on projects approved previously under the Act.

The School Building Assistance Program received its first reprieve in 1952 and has been renewed 13 times since then. Today, the program is due to sunset in 2003. (See Appendix A.)

B. Major Program Changes

Not only has the original Act been extended 14 times, it has undergone dozens of other alterations in the same time period including at least 25 changes in scope and reimbursement rate since 1948. Even with the vast numbers of alterations, the basic structure of the program – partial reimbursement for school construction – has remained untouched. Of all the changes to the original act, five have shaped today's program:

- **1965** - the commission structure was eliminated and replaced by the Board of Education;
- **1968** - major renovations became eligible projects;
- **1971** - financing costs became reimbursable expenses;
- **1983** - school building projects initiated to end racial desegregation became eligible for 90% reimbursement; and
- **1987** - the original reimbursement formula was eliminated in favor of reimbursement percentages set in statute.

Figure 2 provides a listing of many of the changes to the original bill. Please see Appendix B for a more extensive list.

Figure 2: **Major Changes to SBA Legislation**

1949	Changed allowable range of reimbursement rates for regional school districts to 35-65%.
1950	Began reimbursement for original equipping (F&E) costs.
1961	Changed allowable range of reimbursement rates for non-regional districts to 30-50%.
1963	Changed allowable range of reimbursement rates for non-regional districts to 40-50% and 40-65% for regional districts.
1965	Original Commission eliminated and Board of Education granted broad powers over the program.
1968	Major renovations became eligible for state reimbursement.
1971	Interest costs where included in the definition of approved project costs. Formula for individual school district reimbursement rates eliminated in favor of flat 50% reimbursement rate for non-regional districts; 65% for depressed areas in non-regional districts; and 50-65% for regional districts.
1974	Original formula re-established for all districts. Base reimbursement rate increased to 50% from original 25% and 33%.
1976	Changed allowable range of reimbursement rates for all construction to 50-65%. Changed reimbursement for interest to 20-32.5% for non-regional districts and to 50-65% for regional districts; Reduced to 50% the amount of interest eligible for reimbursement. BOE required to consider best interests of the Commonwealth, the availability of funds in the approval process, and to prioritize projects awaiting funding.

	Communities required to consider all alternatives to construction; Developed minimum standards and limited Commonwealth reimbursement to these standards.
1982	Projects to eliminate racial imbalance granted up to 90% reimbursement. If the reimbursement was more than 75%, House and Senate Ways and Means approval was required. Added a percentage bonus for "growth communities".
1983	Flat 90% granted for racial imbalance projects. Redefined racial imbalances as minority isolation thereby increasing the number of eligible projects. Added roofs, energy conservation, accessibility projects.
1984	Changed allowable range of reimbursement rates for all construction and interest to 60-75%
1987	Eliminated original formula and instead set reimbursement rates into statute; Range of reimbursement rates changed from 60-75% to 50-90%; expanded 90% reimbursement to urban-suburban collaboratives.
1993	Eliminated set aside funding for Major Reconstruction projects. Froze the Major Reconstruction and Construction/Renovation waiting lists.

***Figure 3*: Major Reconstruction Projects**
The SBA statute defines two major types of projects: Capital construction projects, and Major reconstruction projects.

"*Projects that may qualify for major reconstruction projects grants include: a project to eliminate a structural safety hazard; a project to make a building accessible to persons with physical disabilities; a roof replacement or reconstruction project; the replacement or improvement of a heating system; a project to make a building more energy efficient. ...*" *CMR 603 38.07*

Prior to 1993, projects on the major reconstruction list were funded through an 85/15% split of SBA funds. In other words, 15% of all appropriations went towards major reconstruction projects while 85% of all appropriations went to new construction or renovation projects. In fiscal year 1993 the requirement that 15% of SBA funds be spent on major reconstruction (as opposed to new construction and renovations) was eliminated. Since then there has been very little funding available for approved major reconstruction projects and the list of such projects has continued to grow. Currently, there are 450 projects, which cost $165M, on the major reconstruction waiting list. Projects on the major reconstruction list range in cost from $32,000 to $2.4 million. Municipalities have completed these projects and are awaiting reimbursement from the state, some for more than 10 years. See Appendix C.

Since FY93 142 projects, costing over $58 million have been added to the major reconstruction waiting list. The average cost of these 142 projects is $408,451. The vast majority of projects added to the major reconstruction list since FY93 are roof projects. These 86 projects range anywhere from $100,000 to $1,000,000. Other projects on the list include energy projects, safety projects, handicap accessibility projects and HVAC projects.

C. Today's SBA Program

In its current form, the SBA program offers 50% to 90% reimbursement for the total cost of construction and financing. Municipal reimbursement rates are no longer calculated by formula each year but are set in statute at a specific rate for each city and town. The rates have remained unchanged since 1987. The average reimbursement rate for municipalities is 68.6%, excluding 90% desegregation projects.

Today, projects are approved by the Board of Education rather than by the original Commission created by the Acts of 1948. The statute requires these projects to be in the best interest of the city or town and of the Commonwealth. The financing mechanism for the program has remained the same since enactment. Cities and towns bond for the full cost of approved projects and the state makes reimbursement payments to municipalities over the life of the indebtedness (usually 20 years).

There are 3 categories of projects eligible for reimbursement under today's School Building Assistance Act:

Category 1 Racial Desegregation
Districts that are seeking reimbursement to correct a racial imbalance[3] in a school or schools fall under this category. Reimbursement to school districts under category 1 is guaranteed at 90% of total project costs.

Category 2 New Construction/Renovations
Districts that are seeking reimbursement to add on to an existing building or to build a new building because they need space for students or "to provide full range of educational programs and to maintain full accreditation."

Category 3 Major Reconstruction (See *Figure 3*)
Districts that are seeking reimbursement for "other projects to meet significant facilities needs."

The SBA staff calculates a maximum grant amount for each applicant that is based on their enrollment projections, a maximum allowable square foot cost and a maximum square foot per student allowance. Within this maximum grant amount, the state will reimburse for the following types of expenses incurred during a category 1 or 2 building project:

- Project Financing Costs
- Building Costs
- Furnishings and Equipment (F&E)[4]
- Site Development (to the curb)
- On-site sewer treatment facility
- Sewer line hook up
- Building Purchase and Renovation (including land on which the building sits)
- Community space (e.g. larger auditoriums)
- Covered walkways
- Roofed-over areaways or courts
- Playing fields
- Parking lots (construction, paving, etc.)
- Playgrounds (including playground equipment)

***Figure 4*: Allowable and Disallowable Costs**
One municipality noted that the SBA program administrators instructed the community that a wastewater treatment plan on the school property would be reimbursable. However, if the municipality wanted to run sewer lines to the school from a plant 2.5 miles away, SBA would only reimburse lines that were used solely for school sewage. If the town chose to increase the size of the lines to carry town sewage, even if the town paid the additional cost of larger pipes, or a second line, SBA would not reimburse any of the sewer line cost. In effect, the municipality was given the option to 1) build a wastewater treatment plant at the school with $145,000 a year operating costs, or 2) run sewer lines strictly for school purposes and then dig an additional trench and run additional lines for town sewage. This inflexibility in the SBA program promotes costly double building and increased operating costs for many municipalities.

There are several project cost components that are not reimbursable by the state and must be funded by the municipality. First, no land purchase is reimbursable, except for land on which there is a building that is to be purchased and rehabilitated for use as a school building. No public way, roadway or sidewalk improvements are reimbursable unless owned by the school. Construction of additional sewer lines beyond school property also falls into this category. Other disallowable costs include: leased space (except for vocational schools), modular classrooms, roof overhangs, exterior terraces, and courts open to the sky. This determination of excludable costs is guided both by express statutory allowances or prohibitions as well as administrative and regulatory determinations.

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[3] Racial imbalance is defined as 51% or more minority enrollment in a single school within a district.

[4] There is no formal definition in the SBA regulations stating what can be included in furnishings and equipment. The phrase is however, a standard term used by architects and engineers to refer to fixed assets acquired and installed as part of the original construction. The Department has stated that F&E funding has been used by many municipalities to cover the cost of computers and software. This practice should be reviewed for appropriateness because 20 year debt is issued to cover the cost of the F&E (in conjunction with the capital construction). Computers and software clearly do not have a twenty year life span and so do not warrant payment of both principal and interest over a twenty year period. The Department recently began internal discussions on establishing protocols for F&E expenditure approval.

Figure 5: **Charter Schools**
In the 1999-00 school year there are 39 charter schools operating in the state. Charter schools are public schools that are free of many of the regulatory strictures placed on other public schools. They receive state education aid but do not currently receive capital funding from the state and are not eligible for SBA funds. Lack of capital funding for charter schools has forced many school children into buildings inadequately suited for educational purposes and has caused a financial hardship for these schools.

While these costs are not considered by the SBA staff when costs of project alternatives are compared (such as renovation or new construction), the applicant must consider these costs as it makes financial decisions about the project.

D. Project Financing – Local Commitment

Once DOE staff has approved an application, the applicant is notified that they may begin construction. Local governments provide financing for 100% of the project cost and the Commonwealth provides payments to the applicant for the state share of the project over the life of the bonds. Because the state payments may not begin for as many as 5 years after the application has been approved and construction has begun, municipalities are authorized to issue short term Bond Anticipation Notes (BANs) to finance the construction phase as they await commencement of state payments. Once the state begins making payments the municipality will issue permanent debt and use the state payment to pay a portion of their level-funded debt service schedule[5].

This arrangement grants the municipality enough flexibility to begin construction before the state appropriates funds, which may be several years after the project is completed. While funds are not guaranteed for a project until the Board of Education approves the DOE staff recommendations, it would be politically difficult for the BOE to disapprove a project once construction has begun. In fact, according to DOE staff, the BOE has never rejected a project recommended by the staff. Given this, staff approval of a grant application becomes the de facto point of financial obligation for the Commonwealth. While the number of projects the BOE may approve is statutorily limited by availability of funding, the staff has no such limitation on the number of projects it approves.

In FY97, municipalities issued $119 million in school-related bonds for 33 districts and in FY98 $172 million was issued for 36 districts.[6] To minimize transaction costs, municipalities generally combine several unrelated projects in a single bond issuance. Capital expenditures on water, sewer or other building projects may also be included in the issuance. However, school building projects represent the majority of bonded debt issued by municipalities.

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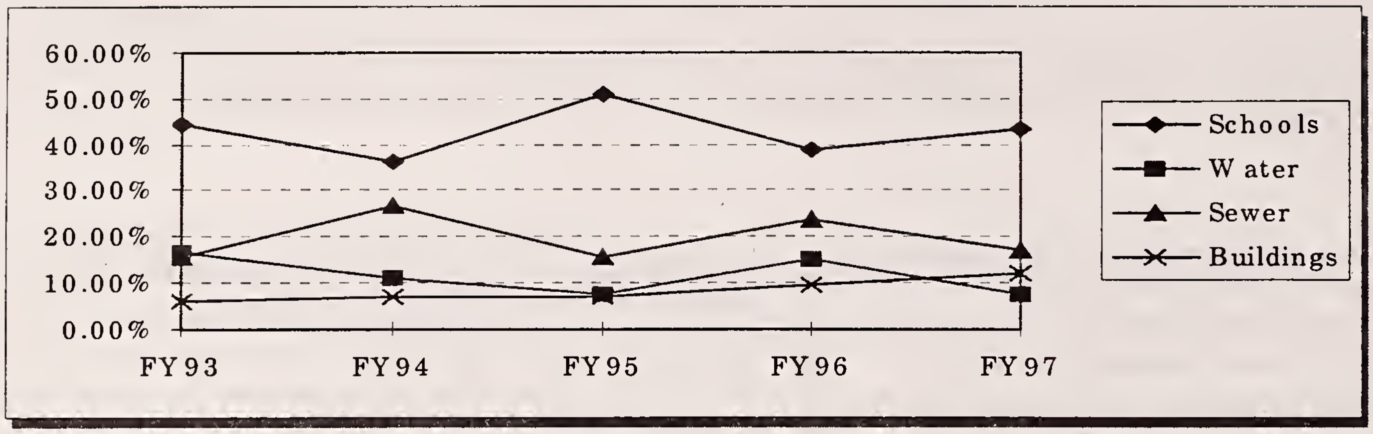
[5] Chapter 44 of the MGL established four debt exceptions for which the municipality can make level funded payments over the life of the debt: school building assistance; enterprise funds; debt exclusions; and Farmers Home Administration loans.

[6] The number of bond issuances is lower thanthe number of approved SBA projects in these years due to timing issues with the bond anticipation notes held by the municipalities and market timing.

Figure 6: Local Bond Issue Make Up
SOURCE: Department of Revenue Division of Local Services



Approximately 1.5% of the total issue represents cost of issuance. This includes bond counsel fees, rating agency fes, printing expense and bond insurance, if obtained. The costs are dependent on the size and complexity of the issue. Applying this against the FY97 and FY98 issuances, indicates that more than $4 million was paid in fees. The financing costs associated with the BANs and the final bond issuance are considered part of the overall SBA project cost and are therefore reimbursable by the state. Each municipality includes various financing assumptions in their project applications, including estimates of interest rates and other issuance costs associated with the BANs and bonds. As would be expected, these assumptions are often much higher than actual costs.[7]

Figure 7: SBA Appropriations 1950 to Present: Nominal Dollars

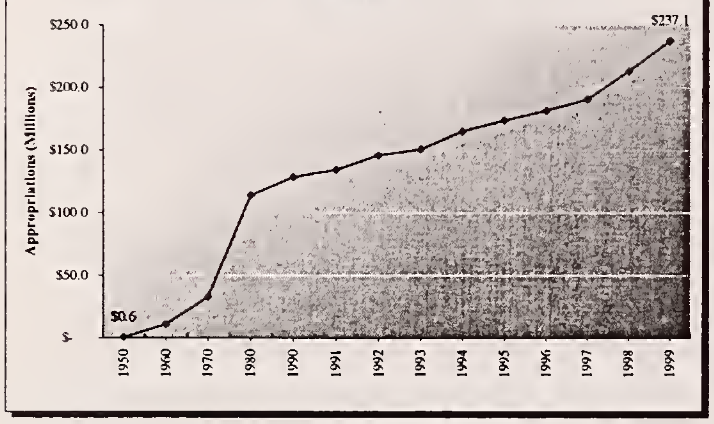
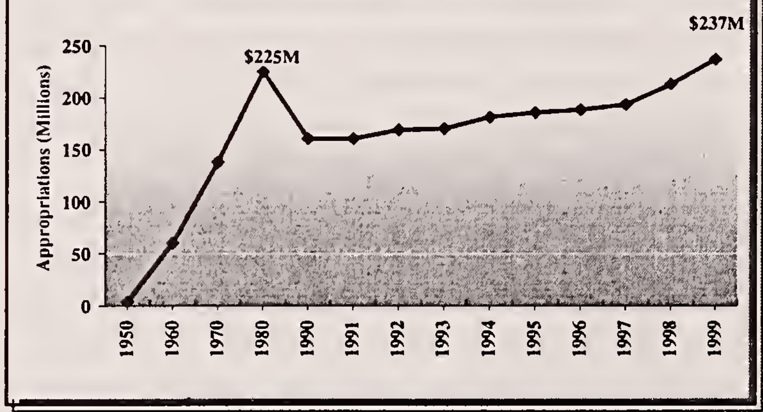


Figure 8: SBA Appropriations 1950 to Present: Constant 1998 Dollars



E. Project Financing - State's Financial Commitment

From the inception of the SBA program, the state has assumed a significant share of school building construction costs. Although the SBA program is a capital construction program, the Commonwealth has historically supported the SBA program through annual operating budget appropriations. From FY1950 to FY1999 the state has appropriated almost $4 billion, ($7.4 billion in 1998 dollars). See *Figure 9* and *Figures 7* and *8*.[8] Of that amount, $1.7 billion has been appropriated for the program since FY1991.

Once the BOE approves a SBA project, the state is obligated to pay, on average, 69% of the cost of the project. The state fulfills its obligation by making annual payments to the municipality. The number of years the payments extends matches the life of the bonds issued by the municipality to finance the construction project. Typically, the bonds last for 20 years.

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[7] At the time of the final audit the Department adjusts grant amounts accordingly to make up for any over or under payments that occurred in previous years. Please see Section 4 for more information on the final audit process.

[8] The Northeast CPI is used for *Figures 7* and *8*.

In this manner, the current financing structure allows the Commonwealth to support as many new school projects as possible. For example, in FY99 the Commonwealth appropriated $44 million to fund 58 new SBA projects. With an average project cost of $20 million, the Commonwealth's commitment of $44 million will leverage more than $1.2 billion in local borrowing to fund the 58 projects.

Every project represents a 20-year operating budget commitment. If the program ended today, the Commonwealth would still owe $4.1 billion for projects receiving payments, and another $2 billion to buy out the waiting list of 126 projects - almost $300 million a year for the next 20 years.

***Figure 10*: Emergency Finance Board (Ch. 44 § 7 (3A), Ch. 71 § 16 (d) et al.)**

Emergency Finance Board approval of debt issuance is required for certain school construction and renovation projects. The Board reviews debt issuance to ensure that the municipality or regional school district has the ability to manage the debt. The Board consists of the State Treasurer, the State Auditor, the Director of Accounts and two appointees of the Governor. Its approval is required for remodeling or reconstruction projects (but not new construction) in a city or town and construction or remodeling or reconstruction projects in a regional school district.

The municipality or RSD submits its request to the Board's executive secretary requesting a hearing for a project. Depending on the size and complexity of the project, the Board will schedule a hearing and a vote at a subsequent meeting. If the city or town or RSD has appeared before the Board recently or if the project is small and self-explanatory, the Board may vote on the basis of the written materials only.

The Board may request further information or approve only a portion of a project, but in most cases approves the project following the hearing. The Board has approximately 80 hearing a year, with a significant number related to school projects.

Figure 9: SBA Appropriations in 1998 Constant Dollars
(millions)

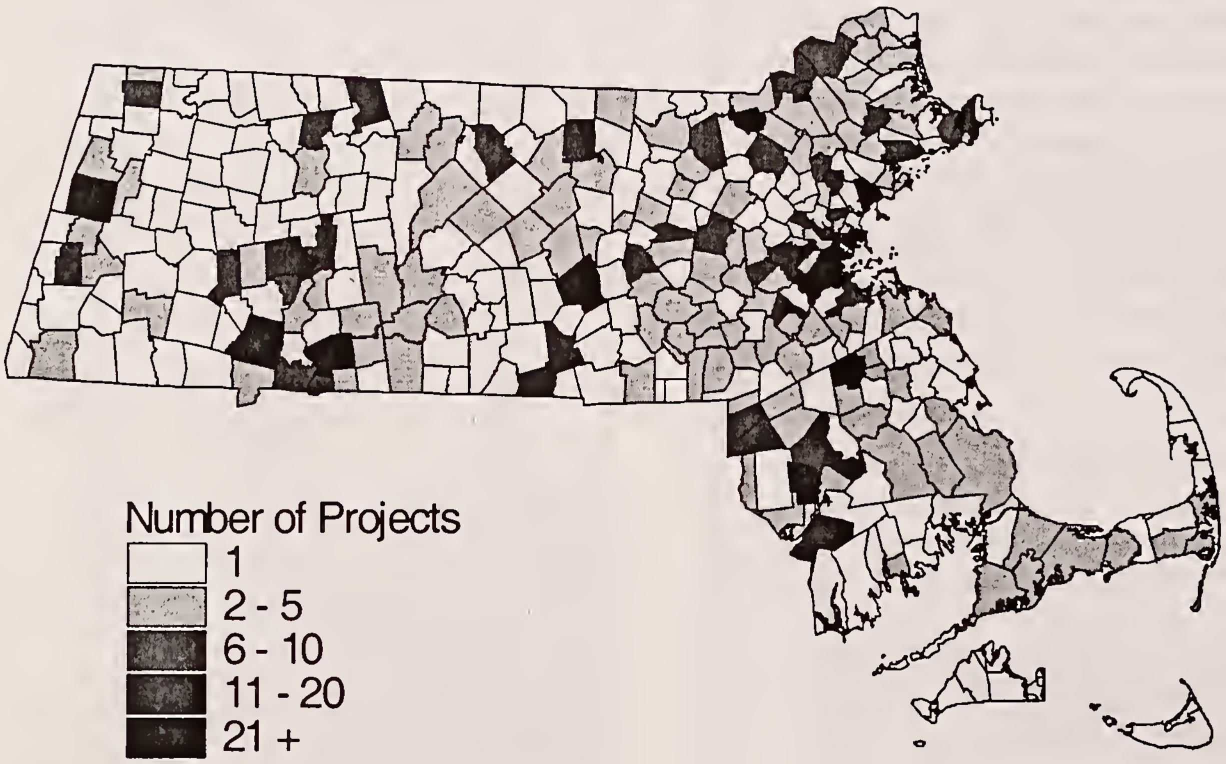
1950	$4.1	1975	$349.5
1951	$6.3	1976	$302.2
1952	$8.6	1977	$268.6
1953	$11.6	1978	$276.7
1954	$31.6	1979	$254.0
1955	$18.3	1980	$225.3
1956	$35.9	1981	$218.9
1957	$53.6	1982	$191.2
1958	$58.8	1983	$180.5
1959	$52.7	1984	$152.3
1960	$60.8	1985	$157.5
1961	$71.6	1986	$172.6
1962	$90.8	1987	$189.0
1963	$83.5	1988	$172.5
1964	$92.9	1989	$167.6
1965	$106.0	1990	$160.8
1966	$117.9	1991	$160.9
1967	$119.8	1992	$169.5
1968	$130.1	1993	$170.4
1969	$133.1	1994	$181.5
1970	$138.5	1995	$185.9
1971	$193.1	1996	$188.7
1972	$169.0	1997	$193.8
1973	$232.8	1998	$213.1
1974	$240.1	1999	$237.1
		Total	**$7.4 Billion**

V. Demand for the School Building Assistance Program

The annual state appropriations for the SBA program have built many of the more than 1800 schools operating across the Commonwealth as well as many others school facilities no longer in use.[9] Since 1971, at least 1,092 projects have been funded through the SBA program[10]. (See *Figure 11.*[11]) Four hundred and forty six projects have been approved for funding since 1991.

Figure 11:

Number of SBA Projects by Municipality 1971 to Present



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[9] The Department of Education is not sure how many projects have been funded by the SBA program since its inception.

[10] This *figure* represents the number of projects receiving at least one SBA payment since 1991 plus the current waiting list of projects. Any project approved between 1971 and 1988 that used a ten year or shorter schedule will not be captured in this *figure*. Several communities have used 10 year schedules over the years.

[11] It is important to note that, for regional school districts, only the municipality in which the school was built is shaded on the map. Many of the municipalities on the map with no recent school projects are members of regional districts and schools have been built in surrounding towns. The schools are accessed by all members of the regional districts. See Section 2 for a further discussion on where school projects have been constructed since 1971.

The need for new and renovated school buildings shows no sign of slowing. See *Figure 13.* As of the end of FY99 there were 126 projects waiting for state payments to begin. Most of these projects are in construction or will be shortly. In addition to the waiting list, the Department worked with 97 school districts to prepare 128 new project applications this year. The Department stated that 75 of these applications were completed and submitted by the June 1, 1999 deadline to be added to next year's waiting list.

Each year the Commonwealth's financial obligation increases and the project waiting list grows larger, even though growth in the K- 12 student population has grown at a slower rate over the last several years than it did during the 1960s and 1970s. Since 1993, student enrollment has increased by 16% from 809,496 to 936,733; SBA spending has increased by 90%, in nominal dollars (39% in inflation adjusted dollars). Moderate enrollment growth has generated expansive program growth.

***Figure 12*: Massachusetts Enrollment**

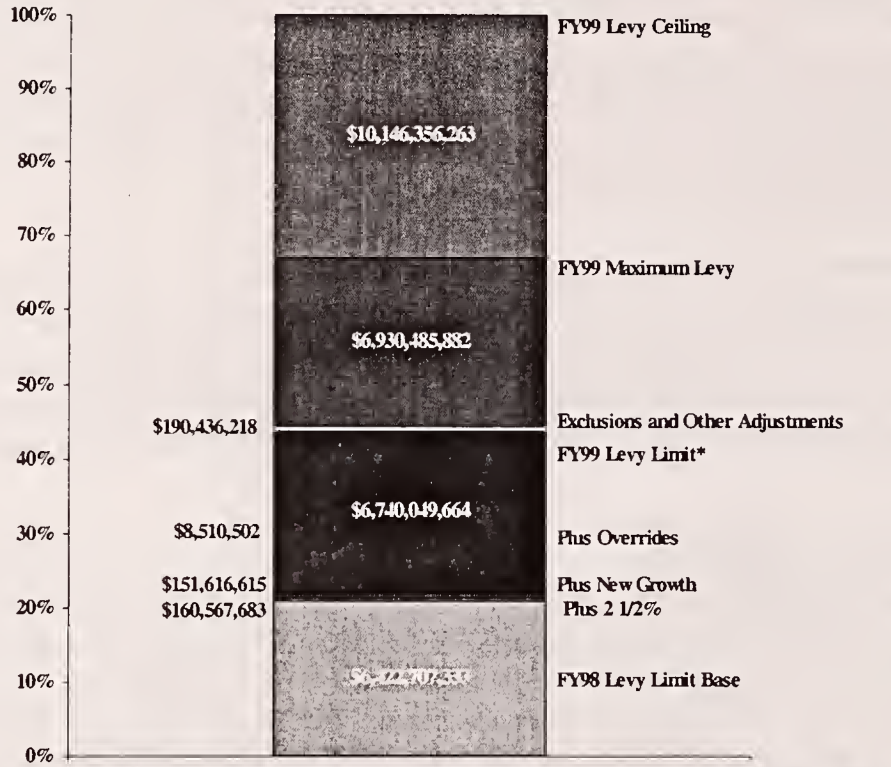
During the 1960's and until the 1973-74 school year, total student enrollment in Massachusetts' schools increased steadily as the Baby Boomers' children entered schools across the country in droves. In 1973-74, Massachusetts' student enrollment reached its peak at 1,211,638 students. Over the next 15 years, student enrollment decreased steadily, by 37.5% in total and reached a low in 1988-89 of 825,409 students. Throughout the 1990's enrollment has increased by, on average, 1.7% annually and was at 963,761 for the 1998-99 school year. Enrollment is expected to grow, but at a slower rate over the next few years (less that 1% annual increase) and it is expected to decrease beginning in 2003-04. Enrollment is not expected to reach peak levels achieved during the 1970's.

Figure 13: **SBA PROGRAM ACTIVITY FY90-99**

FY	# Projects On File	# Projects Approved	Waiting List	Authorization Need	Authorization Available	Annual Funding Needed for Waiting List
1990	57	44	13	$ 33 M	$ 25.0M	$ 8.0M
1991	64	26	38	$ 32 M	$ 17.6M	$ 14.4M
1992	61	13	48	$ 31 M	$ 8.9 M	$ 22.1 M
1993	81	27	54	$ 39 M	$ 15.5M	$ 23.5M
1994	69	41	28	$ 31 M	$ 15.5M	$ 15.5M
1995	74	26	48	$ 50.6M	$ 17.0M	$ 33.6M
1996	142	35	107	$105.7M	$ 20.6M	$ 85.1M
1997	177	45	132	$112.0 M	$ 33.0M	$ 79.0M
1998	181	59	122	$130.5M	$34.0M	$96.5M
1999	184	58	126	$140.5M	$44.0M	$96.5M

Source: Department of Education

Figure 14: **FY99 Statewide Levy Limit**



Source: Division of Local Services

*After adjustments for ceiling

The continuing demands on the School Building Assistance Program are attributable to several factors:

- financial constraints on local budgets;
- aging and poorly maintained building stock;
- growth in student enrollment; and
- mobility of the population within Massachusetts;

Each of these factors is discussed below.

A. Demand for the SBA Program - Financial Constraints on Local Budgets

There are several factors that influence a municipality's ability to pay for new school construction. Perhaps the most widely discussed local budget constraint is Proposition 2½. Proposition 2½ was enacted by the voters by referendum[12] which limited the total amount of property taxes that a municipality may levy in a particular year and the amount by which the annual levy amount may grow. See *Figure 3*. Many communities are currently at or near their levy ***limit*** created by Proposition 2½ – the maximum allowable levy for a given year without further voter approval of an override, debt or capital expenditure exclusions.

Several communities are nearing their levy ***ceiling*** – 2.5% of the full and fair value of property within their boundaries. Even with an override, municipalities cannot levy property taxes above the levy ceiling. Only a debt or capital outlay exclusion can bring the levy temporarily above the levy ceiling. The following 16 communities have exceeded 2% tax levy of the full and fair cash value of property in FY99: Amherst, Carver, Charlemont, Chesterfield, Framingham, Greenfield, Holbrook, Leverett, Marlborough, Maynard, Salem, Sharon, Shutesbury, Wendell, West

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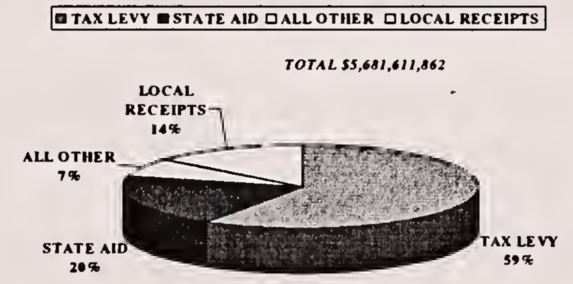
[12] Chapter 580 of the Acts of 1980.

Springfield and Whitman. Further, Boston, Everett, Florida, Holyoke, Lawrence, Lowell, and Worcester levied over 2.25% of the full and fair cash value in FY99. Springfield is currently at its levy ceiling. The vast majority of municipalities still have room within their levy ceilings for budget expansion. See Appendix D for more information on local tax levies.

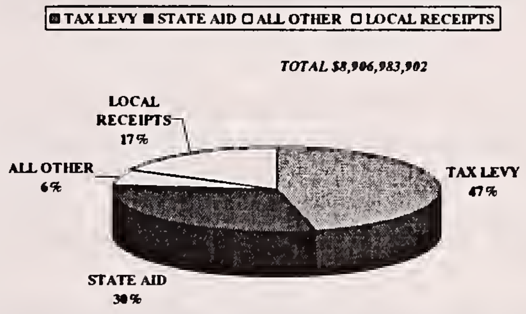
Municipalities have argued that the tax cap created by the passage of Proposition 2 ½ (Chapter 580 of the Acts of 1980) placed severe constraints on local budgets, making it very difficult for municipalities to cover the costs of school building projects as well as other necessary capital and operating expenditures. This argument has been a driving force in the continued extension of the SBA program as well as the expansion in scope and reimbursement rates enacted over the last eighteen years.

Figure 15: **FY 81 STATEWIDE AVERAGE MUNICIPAL REVENUE SOURCES**



SOURCE: DOR Division of Local Services

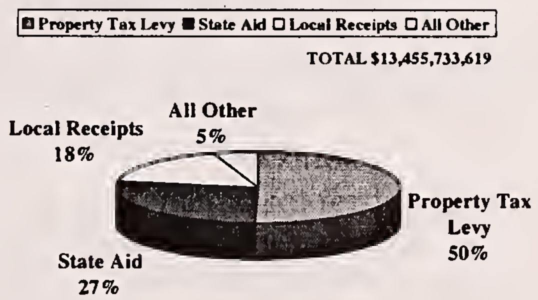
Figure 16: **FY89 STATEWIDE AVERAGE MUNICIPAL REVENUE SOURCES**



SOURCE: DOR Division of Local Services

Change in Municipal Revenue Makeup Pre- and Post-Proposition 2 ½

Figure 17: **FY99 STATEWIDE AVERAGE MUNICIPAL REVENUES**



SOURCE: DOR Division of Local Services

Figures 4, 5 and 6[13] illustrate the statewide average municipal revenue sources for FY81, FY89 and FY99 respectively. In FY81, prior to the implementation of Proposition 2 ½, 20% of municipal revenue was state aid and 59% was property tax levy. In FY89, the beginning of the economic recession and several years after the implementation of Proposition 2 ½, state aid had grown to make up 30% of municipal revenues while the property tax levy decreased to 47% of municipal revenues. In FY99, state aid equaled 27% of municipal revenues, a slightly smaller portion of municipal revenues than it was in FY89 but a larger portion than before Proposition 2 ½. Property tax levy made up 50% of municipal revenues in FY99, a small increase over FY89 levels but a decrease over pre-Proposition 2 ½ revenue levels.[14]

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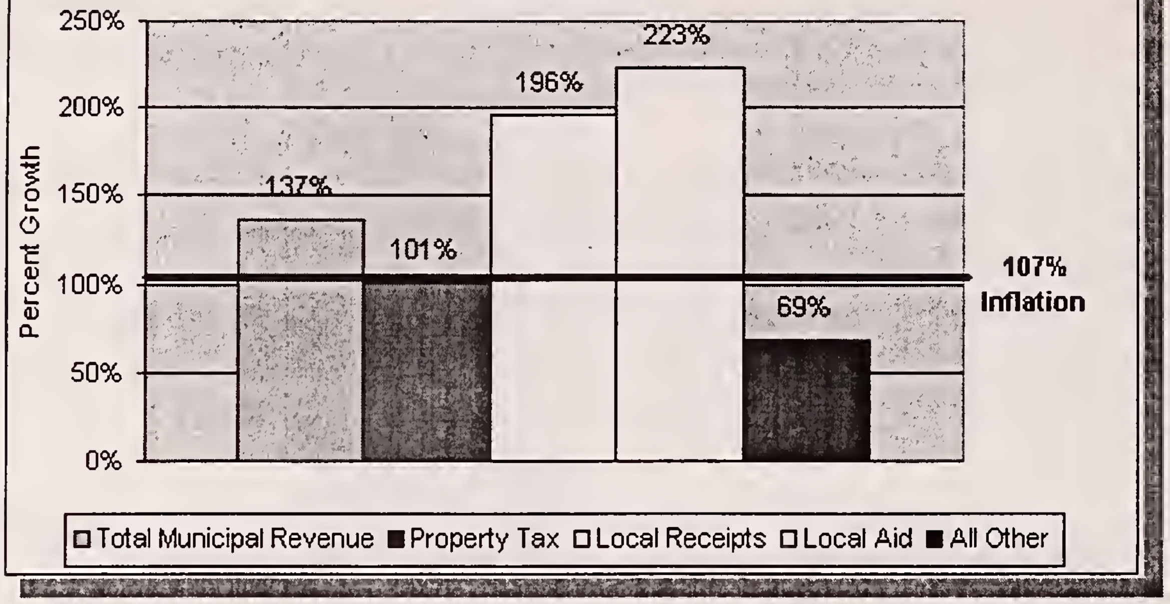
[13] The category "all other revenues" used in these charts includes free cash, stabilization funds, overlay surplus and other reserves.

[14] In 1989, education aid made up 58.2% of local aid distributed; in 1999, education aid made up 71.3% of local aid distributed by the state. *Division of Local Services*

Figure 18: Municipal Revenue FY81 - FY99: Actual Growth vs Inflation

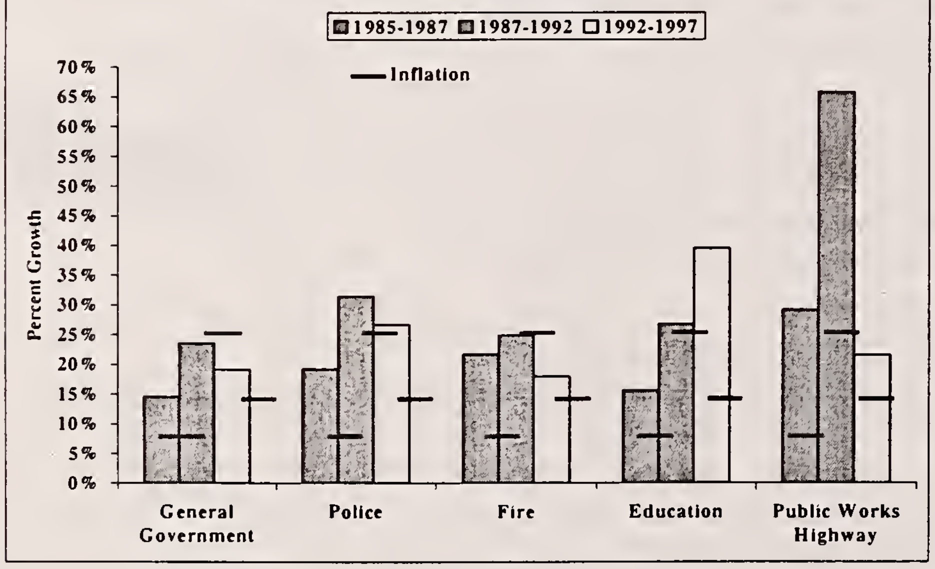


Between FY81 and FY99, total local revenues grew by more than 137%. See *Figure 18.* Inflation over the same period grew by 107%.[15] Within total municipal revenues:

- Tax revenue grew by 101%, just under inflation of 107% (actual is $205 million less than inflated).
- Local receipts (actual is $777 million greater than inflated) and local aid (actual is $1.3 billion greater than inflated) grew at approximately double the rate of inflation.
- All other revenue grew at 2/3 the rate of inflation (actual is $150 million less than inflated).

While the levy cap imposed by Proposition 2 ½ limited the total property tax receipts available to cities and towns, total revenue grew faster than inflation. Statewide, total municipal revenues grew an additional 30% from FY81 to FY99 after adjusting for inflation. Even when growth in local aid is eliminated, growth in total local revenue has still outpaced inflation since enactment of Proposition 2 ½ by more than $425 million. Municipalities have found significant non-tax revenue sources to off-set some of the impact of Proposition 2 ½.

Figure 19: Municipal Spending Growth



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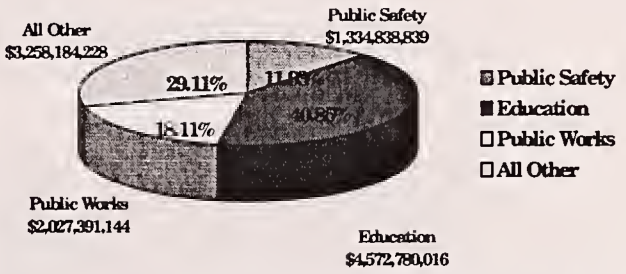
[15] Determined using North East CPI.

Changes in Municipal Spending

School construction funding needs must also compete with other municipal budget priorities. *Figure 20* shows the distribution of municipal spending by category for FY1997. These priorities include not only annual operating expenditures but also capital expenditures for other municipal buildings and roads.

Figure 20: **FY97 Statewide Municipal Expenditures**

Total $11,193,194,227



Municipal spending[16] in almost all budgetary categories has steadily increased each year in the last fifteen years. Some communities did not experience spending increases during the recession of the early 1990s, although most experienced at least some small spending growth.

In fact, spending in many program categories has consistently increased at rates greater than the rate of inflation over the last 15 years, with the exception of some areas of spending during the recession. See *Figure 19.* Despite the anticipated revenue constraints of Proposition 2 ½, municipalities have been able to consistently increase spending, above the rate of inflation, in nearly all governmental spending categories.

While Proposition 2 ½ may have allowed less revenue growth than was otherwise possible, municipalities have been able to support services with fees and identify other revenue sources such that total revenue growth has outpaced inflation. This has allowed municipal spending to outpace inflation as well. Although spending and revenue have grown faster than inflation, communities no longer have the luxury of raising taxes at will when need arises. For expenditures that do not fit within annual allowable revenue growth, communities must find room within their existing budget or seek a voter-approved override of Proposition 2 ½.

Figure 21: **California: Proposition 13**

In 1978, California passed Proposition 13, a greater than thirty percent cut to property taxes with a cap on the rate of tax increase in the future. Under Proposition 13, property tax rates can not exceed 1 percent of the property's market value and can't grow by more than 2 percent annually until sold. Once property is sold it is reassessed at 1 percent of the new market value and capped at 2 percent annual growth on the assessment. At the time of passage educators bemoaned the fate of public education in the face of limited funding.

Today, California is facing similar education and construction funding issues as Massachusetts, although on a much larger scale. Currently, about half of the funding for the 8,331 schools comes from state aid. One-third comes from local property tax levies and the remainder is made up of federal aid, other local revenues and lottery money.

In 1998, California passed Proposition 1A, a major state general obligation bond issuance of $9.2 billion for K-12 and higher education facilities. Of the $9.2 billion, $6.7 billion will be used to fund K-12 school construction over four years and $2.5 billion will be used to fund higher education facility construction. The cost to the state is $600 million per year over 25 years for a total obligation of $15.2 billion with interest.

Proposition 1A follows on the heels of a 1986 general obligation bond issuance of $8.8 billion to fund K-12 school construction and renovation.

The limitation in local property taxes created by Proposition 13 has placed much of the responsibility of public school construction on the state. The state, through these bond issuances, picks up 50-80% of the total project costs for public school building construction.

In general, communities have been successful gaining approval for one-time debt exclusions for school construction and repairs. The success rate has averaged about 94%, while the success rate for all other types of debt exclusions is averaged 51%. Permanent tax overrides for school projects have had a 40% success rate since FY1990, although the rate has been increasing and stood at 48% for attempts in 1997. All other types of override attempts stood a significantly smaller chance of success – around 30% since 1990. Cities and towns have attempted significantly fewer overrides since the early 90's .In 1990, 442 attempts were made; in 1997 only 169 attempts were made, perhaps accounting for the greater approval rate.

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[16] A complete analysis of the impact of Proposition 2 ½ should include review of municipal spending prior to the implementation of Proposition 2 ½. The Department of Revenue does not have this historical spending data, however, and so spending comparisons are made from 1985-1997.

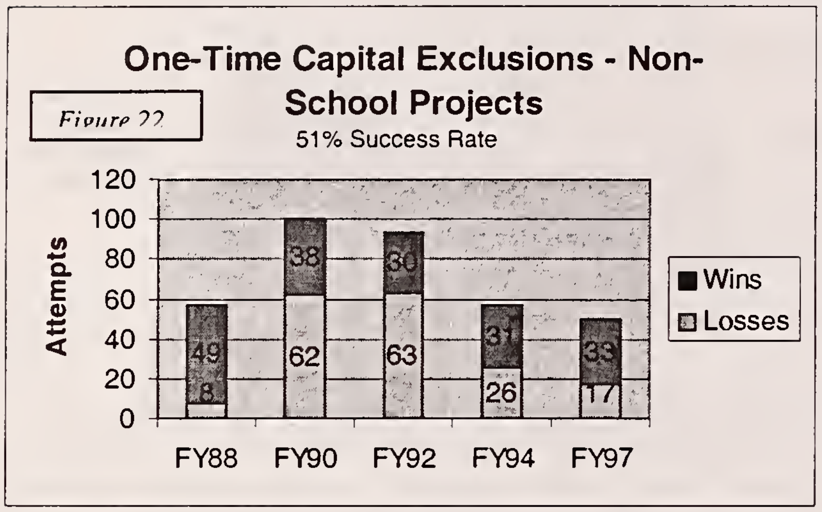
Figure 22

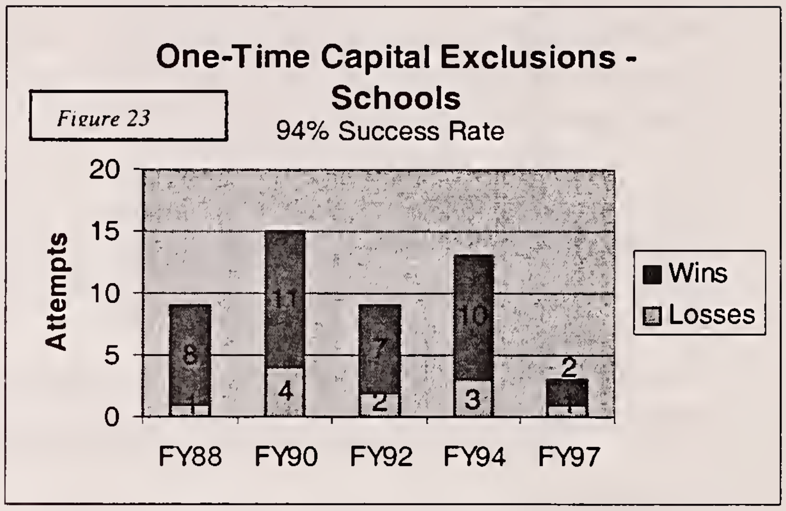
Figure 23

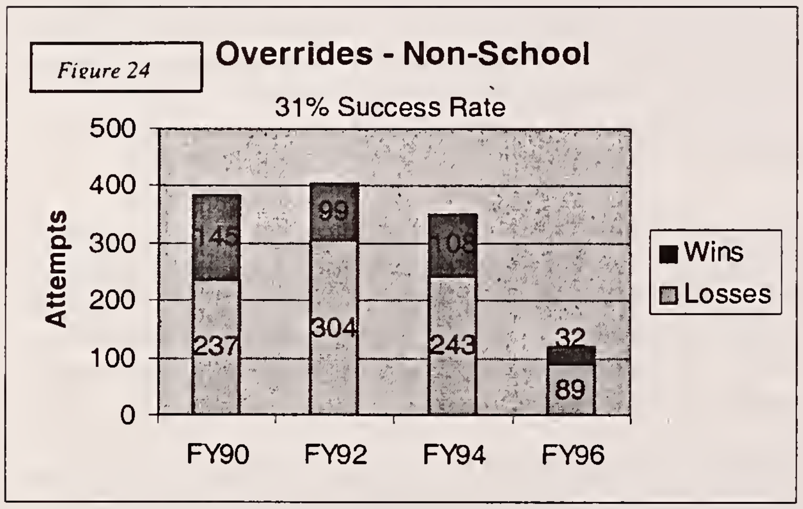
Figure 24

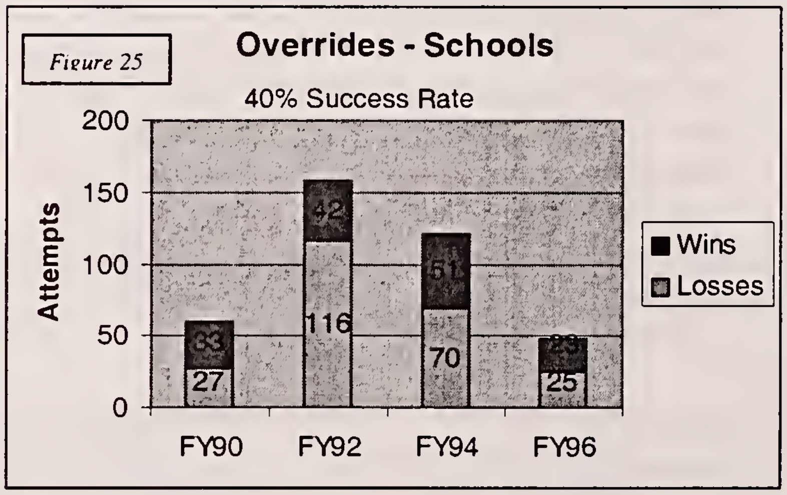
Figure 25

It appears that the greatest impact of Proposition 2 ½ has been the need to approach voters for large spending increases that cannot be absorbed in local budgets. Although school referenda have a significantly greater approval rate than non-school referenda, override votes for major school projects still stand a 60% chance of failure. This low success rate poses a significant challenge to local governments. [17]

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[17] The aging Massachusetts population could make it even more difficult for municipalities to pass override and debt exclusion referenda. As the Baby Boomers age, senior citizens are the fastest growing age group in the country. Many local governments believe, and some researchers agree, that seniors are less likely to approve tax referenda, especially school bond tax referenda, than younger voters. Seniors also have greater voter registration and voter turn out rates than other age groups making them a powerful force at local elections. As of September 1997, 35% of registered voters in Massachusetts were age 55 and over. The potential intergenerational conflict over the construction of school buildings could cause great difficulty for local governments that are trying to build new schools in the future.

"[T]he aging, who register and vote in significantly higher proportions than younger persons, tend to oppose school bond issues but not necessarily other local tax issues. The study suggests the beginnings of generational conflict, at least on education issues." *A Sign of Generational Conflict: The Impact of Florida's Aging Voters on Local School and Tax Referenda*, James W. Button – Social Science Quarterly, Volume 73, Number 4, December 1992 (pp 786-97)

B. Demand for the SBA Program - Aging and Poorly Maintained Building Stock[18]

Massachusetts has a long and distinguished public education history. Free public primary schools were established in Boston in 1817 – the first such schools in the nation. Three years after the establishment of free primary schools, Boston English, the first public high school in the United States opened in Boston. In 1827 Massachusetts passed the first public education law in the nation making all grades of public school open to all pupils free of charge.

But this storied public education history means that many of our public education facilities have long histories of their own. Today in Massachusetts there are approximately 1,899 school buildings in use (see *Figure 3*)[19]. Although the DOE does not keep a working inventory of the condition, size or age of Massachusetts school buildings, we know that the school building stock in the Northeast is the oldest in the nation.

According to a survey conducted by the National Center for Education Statistics (NCES), "In 1998, the average public school building in the United States was 42 years old."[20] The survey also found that 30% of schools in the Northeast were built before 1950 and the mean age of schools in this region of the county was 46 years (see *Figure 4*). It is worth noting however, that the architects we spoke to suggested that buildings from the turn of the century were in better shape than many of those built 40 years ago.

Figure 26: **Number of Massachusetts Schools Compared to US Average**

	Total number of schools 1996-1997	Elementary	Secondary	Other
Massachusetts	1,856	1,471	335	50
United States State Average[21]	1,728	1,213	418	97

Source: United States Department of Education, National Center for Education Statistics

Figure 27: **Age of US School Buildings**

	Year Built				
	Before 1950	**1950-1969**	**1970-1984**	**1985 or after**	**Mean Age**
Northeast	30%	49%	15%	6%	46
United States	28%	45%	17%	10%	42

Source: US Department of Education, National Center for Education Statistics, Fast Response Survey System.

According to a 1995 General Accounting Office (GAO) report, Massachusetts is one of only 13 states with a comprehensive school facilities program.[22] This report further ranked Massachusetts as 8th in the nation on per pupil spending for school buildings. Despite these positive comparisons, a GAO follow-up report issued in June of 1996 contained self-reported district data,[23] which indicated that 41% of Massachusetts school districts had at least one inadequate building and that 75% of our schools had reported at least one inadequate building feature.[24] A building is deemed inadequate if it is "in need of extensive repair or replacement".[25] A building is deemed to have an inadequate feature when at least one building feature is in need of repair. This includes damage to "roofs, framing, floors, and foundations; exterior walls, finishes, windows, and doors; interior finishes and trims; plumbing and heating; ventilation and air conditioning, electrical power, electrical lighting and life safety codes."[26]

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[18] It is interesting to note that several architects stated that, in their experience, school buildings constructed in the early 1900s are often in better condition than buildings or additions constructed in the 1950s or even if the 1970s.

[19] For comparison purposes the Massachusetts and United States school building data used is from the 1996-97 school year. The Massachusetts Department of Education reports that there are currently 1,899 schools in Massachusetts, however, no break out of the number by type of school is available for this total.

[20] US Department of Education, National Center for Education Statistics, January 1999 Issue Brief: How Old Are America's Schools.

[21] United States statewide average equals total number divided by 50.

[22] *School Facilities: States' Financial and Technical Support Varies*, GAO/HEHS-96-27; November 1995.

The GAO received information from 10,000 schools nationwide for this survey. Most of the schools surveyed across the country needed multiple features repaired. The most frequently reported problems nationally were affiliated with heating, ventilation and air conditioning systems.

Figure 28: **GAO School Building Survey**

	Massachusetts[27]	Northeast	United States[28]
At Least one Inadequate Building Feature	75%	62%	60%
At Least one Unsatisfactory Environmental Condition[29]	80%	72%	50%

State Assistance for Building Repairs and Maintenance

State assistance for maintenance of school buildings comes through Chapter 70 education aid[30]. Through the foundation budget, the state recommends an annual spending amount for each district for ordinary and extraordinary maintenance and then provides state assistance for those expenditures.

Ordinary Maintenance Expenses - General utility and ordinary maintenance items in any fiscal year.

Extraordinary Maintenance - Periodic servicing, repair or reconditioning of school buildings, grounds, or equipment to extend the useful life of an existing asset. DOE regulations currently limit the amount of extraordinary maintenance spending that can be counted toward required local education spending to $100,000 per project.[31] Districts may spend more than this limit on a project, but cannot count the spending toward the minimum local education spending required by the Education Reform Act.

From FY94-FY98, the state provided more than $506.9 million of the recommended $1.448 billion in ordinary and extraordinary maintenance categories. Because the Commonwealth does not require municipalities to spend the recommended amount on maintenance, districts actually spent, on average, 11% of the recommended amount for extraordinary maintenance and 113% for ordinary maintenance.

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[23] Although self reported data is not considered innately inaccurate it must be recognized that this information is not verified or audited in any way. In addition, self reported data is reported by multiple individuals as they view their own personal situations and not consistently reported by one person or one single methodology.

[24] *School Facilities: Profiles of School Condition by State*, GAO/HEHS-96-148; June 1996, Appendix XXV page 102.

[25] *School Facilities: Profiles of School Condition by State*, GAO/HEHS-96-148; June 1996, page 5.

[26] Ibid. p. 5.

[27] Ibid. p. 102.

[28] United States General Accounting Office. School Facilities: America's Schools Report Differing Conditions. June 1996, page 1.

[29] Unsatisfactory Environmental Conditions include poor ventilation, heating or lighting problems.

[30] The state also provides about $2 million annually in funding for emergency school repairs. This money is available to schools on demand, as emergencies arise.

[31] The cap has been raised twice in recent years by the Board of Education – from $25,000 to $50,000 in 1995; and from $50,000 to $100,000 in 1999.

A report by RM Bradley for the Division of Capital Asset Management and Maintenance reports that the three year average extraordinary maintenance cost for the state-owned Transportation Building is $.41 per square foot.[32] *Figure 6* estimates suggested annual extraordinary maintenance costs for an average high school based on the extraordinary maintenance expenditures for the Transportation Building.

Figure 29: **Suggested Maintenance Expenditures**

Enrollment	Approximate Building Size (sq. ft)	Suggested Annual Extraordinary Maintenance Expenditure	10 Year Extraordinary Maintenance Cost
1,500	232,500	$ 95,325	$ 953,250
2,500	387,500	$ 158,875	$ 1,588,750

Comparing these estimates to actual school spending on extraordinary maintenance reveals how far off the mark our schools are: From FY94 to FY98, school districts spent $85 million of a recommended $786 million for the extraordinary maintenance of our school buildings. This translates to less than $9,000 per year, per school building in actual spending while almost $90,000 per year, per school has been allotted in the foundation budget. At $9,000 per building per year, for our communities to conform to the RM Bradley benchmark of $.41 per square foot, our schools would have to be on average, no more than 22,000 square feet in area, smaller than half a football field.

Given the age and reported condition of our school buildings, we would expect spending for extraordinary maintenance to be much higher than this. It is apparent that school districts are not spending enough to maintain their facilities. The following sections examine some of the reasons for this dearth of maintenance spending.

Figure 30: Foundation Budget Recommended Versus Actual Spending: Extraordinary Maintenance

	FY94	FY95	FY96	FY97	FY98	FY94 - FY98 Average
Recommended						
Extraordinary Maintenance	$141,548,809	$ 148,915,212	$ 158,035,460	$164,866,097	$173,419,097	$ 157,356,935
Per Building	$ 74,539	$ 78,418	$ 83,220	$ 86,817	$ 91,321	$ 82,863
Actual Spending						
Extraordinary Maintenance	$ 10,282,499	$ 16,249,448	$ 11,725,782	$ 14,316,807	$ 32,076,783	$ 16,930,264
Per Building	$ 5,415	$ 8,557	$ 6,175	$ 7,539	$ 16,891	$ 8,915

Disincentives for Building Maintenance – Number 1

The mix of state funding sources for school building maintenance, repair, and replacement has the unintentional side effect of rewarding schools that allow their facilities to deteriorate with new school buildings. While the state provides significant funding for on-going maintenance and repairs, the local school committees are allowed to spend those funds for any education purpose such as teachers, books, special education and other programs. When faced with the alternatives of hiring five new teachers or replacing the elementary school roof that has had a small leak for a few years, it is easy to anticipate the ultimate decision.

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[32] The Transportation Building was opened in 1984. Due to its relatively young age it is possible that older school buildings may require more than a $.41 per square foot extraordinary maintenance expenditure.

Layered upon this political disincentive for repairing the roof is yet another influencing factor. Given the generous reimbursement rates, it can be more cost effective for a municipality to construct a new building or undertake a major renovation in a few years than to properly care for a school building throughout its life. For example, if the town of Smallville wanted to build a new elementary school for an elementary school population of 437 students, and had a reimbursement rate of 83%, the new $16 million (including interest costs) construction project would cost the town just under $3 million, including interest, over 20 years. However, maintaining and repairing an existing building could easily cost the town even more than this amount.

There is similar anecdotal evidence about a school building project in Williamstown where voters were told the town had two options: apply to the School Building Assistance Program to build a high school that would cost the town $5 million dollars; or maintain the existing high school, which would also cost taxpayers about $5 million dollars over the next 10 years. Several of the groups we met with indicated that it is common practice for districts and municipalities to openly weigh the advantages of applying to the SBA program for a new building versus maintaining existing facilities.

According to the current SBA statute, the DOE is supposed to withhold funds for new school building projects where the need for the new building was created by the applicant's failure to properly maintain their school facilities. According to SBA staff, the DOE has never denied an applicant for this reason.

Disincentives for Building Maintenance – Number 2

In an attempt to protect school districts from having to spend too much of their Education Reform aid on building maintenance, the Board of Education established a regulatory limit of $100,000 on the cost of an extraordinary maintenance project a municipality may count towards foundation budget spending. School districts may spend more than this on a single project, but any expense greater the $100,000 limit must be funded outside of the foundation budget spending requirement. In short, this means the school district must often return to the municipality to request additional funds, in an environment where many municipalities feel they are required to give too much to the schools in the first place.

The recent doubling of the cap from $50,000 to $100,000 was a step in the right direction.[33] However, many projects such as roof replacements far exceed this $100,000 cap. For example, recent projects on the major reconstruction list, many of which could be considered extraordinary maintenance for foundation budget spending purposes, average over $400,000[34]. Although a cap of $400,000 for extraordinary maintenance spending would unduly burden many school budgets, this project average illustrates that the $100,000 cap may need additional review.

As this section has demonstrated, the condition of our current building stock and the programmatic disincentives that discourage proper building maintenance will continue to push the demand for new or renovated school buildings. Although our schools are reported to be in worse shape than many other schools in the nation, less than $9,000 per building of the $100,000 per building provided by the foundation budget was expended in FY1999 for extraordinary maintenance costs. Without significant restructuring of the school building funding method, we should continue to expect schools to eschew building maintenance in favor of constructing new buildings or providing other education services.

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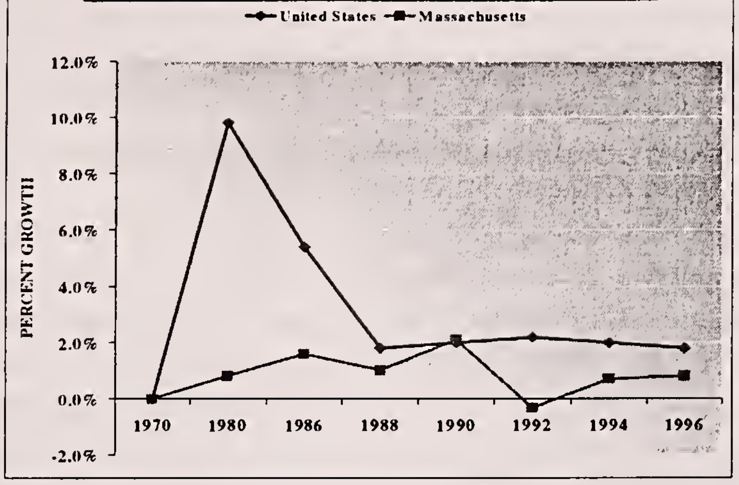
[33] The original cap of $25,000 was raised to $50,000 in 1995.

[34] Most of the recent projects on the list are roof repairs, HVAC (ventilation and heating) repairs and energy conservation projects.

Figure 31: GROWTH IN TOTAL POPULATION: THE UNITED STATES AND MASSACHUSETTS



Source: US Census Bureau

***Figure 33*: National Enrollment Trend:** From 1971 to 1984, total elementary and secondary school enrollment decreased every year, reflecting the decline in the school-age population over that period.

After years of decline, enrollment in elementary and secondary schools started to rise. In response to an increase in the 5- to 17-year-old population, total enrollment in public and private elementary and secondary schools increased from 44.9 million in 1984 to 51.4 million in 1996, an increase of 14 percent. Total enrollment is projected to increase for most of the projection period to 54.3 million by the year 2008, an increase of 6 percent from 1996.
Source: US Department of Education Web Page

C. Demand for the SBA Program - Growth in Student Enrollment

Growth in student enrollment in individual school districts creates demand for new classroom space. Today, the second wave of the Baby Boomers' children have entered and are leaving school and in Massachusetts student enrollment is projected to remain flat over the next several years.[35] Many school districts will continue to face a space crunch, however, as emerging economic markets and the hunt for better housing and schools cause population shifts within the Commonwealth.

Aggregate Massachusetts Population Changes

Although national population growth has increased significantly over the last 25 years (22.7% from 1970-1996) the total Massachusetts population has remained relatively stagnant – increasing only 6.6% over the same time period.

This slow growth rate relative to the nation is predicted to continue over the next 30 years. According to the Massachusetts Institute for Social and Economic Research (MISER), Massachusetts will experience population growth of 11.2% (.56% average annual growth) from 1990 to 2010, most of which will be attributable to minority population expansion from both in migration and natural population increases. The US Census Bureau predicts population growth of 14% (.47% average annual growth) from 1995 to 2025, growing from 6.15 million to 6.9 million people. Much of this increase will be from international migration.[36,37]

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[35] The Massachusetts Institute for Social and Economic Research ***(MISER)*** is an interdisciplinary research institute of the College of Social and Behavioral Sciences at the University of Massachusetts at Amherst.

[36] State Population Rankings Summary, U.S. Bureau of the Census, Population Division, Population Paper Listing #47; pg. 2.

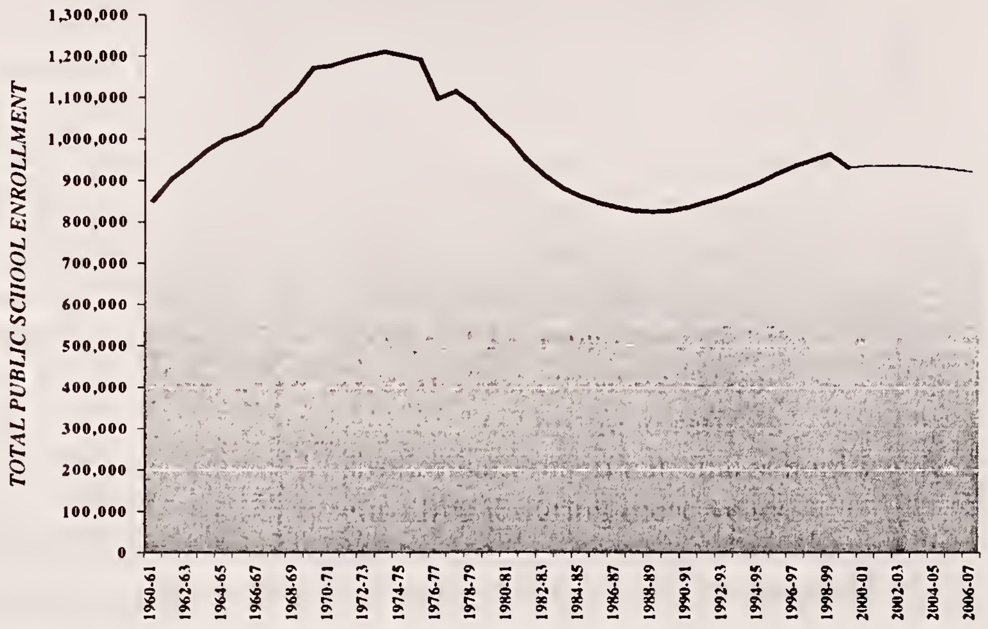
[37] US Census Bureau 7/1/98 population estimate.

These predicted rates are considerably higher than the actual 6.6% population increase over the past 20 years, or .44% average annual growth.

Massachusetts K – 12 Public School Student Enrollment

The Massachusetts Department of Education maintains public school enrollment data back to 1960. This data shows a 13% increase in public school enrollment over the 38 year period from 1960 to 1998. In 1988, public school enrollment declined to its lowest level since before 1960 – 825,409 students. Since 1988, public school enrollment has steadily increased to 963,761, an increase of 17% over the last ten years.[38] See *Figure 34*. This trend reflects similar patterns in national school enrollment during these years.

Figure 34: HISTORICAL MASSACHUSETTS PUBLIC SCHOOL ENROLLMENT WITH MISER ENROLLMENT PROJECTIONS



Over the next several years, the public school enrollment is expected to level out and perhaps even decrease slightly before 2006. Public school enrollment from 1999-00 to 2002-03 is projected to increase by 3,872 students or .42%.[39] Enrollment is projected to then decrease 1.6% (15,030 students) from 2002-03 to 2006-07.[40]

Massachusetts K – 12 Enrollment Growth – Enrollment Bubbles

Figure 35: MASSACHUSETTS PUBLIC SCHOOL ENROLLMENT 1984-2007

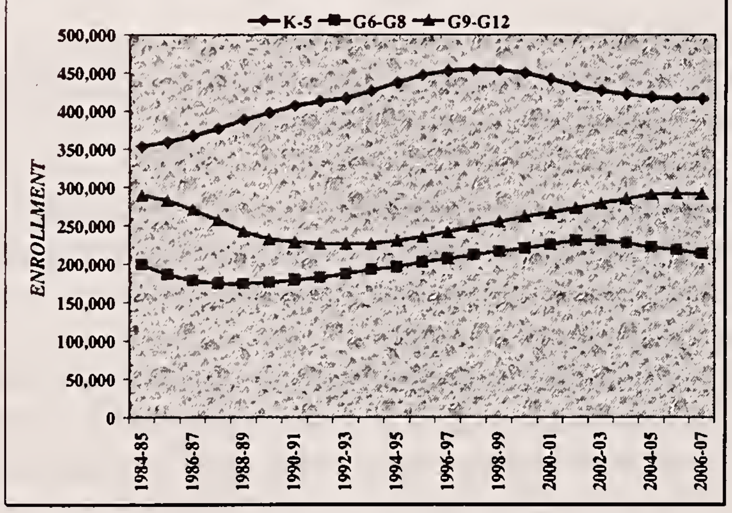


Figure 35 shows historical public school enrollment with projected enrollment through 2006-07 by grade. This data illustrates a short-term increase in kindergarten through fifth grade students during the late 1990s. This year, and over the next several years the population of K-5 students is expected to decline. This enrollment bubble in the elementary schools will be passing through Massachusetts' middle schools and high schools over the next several years. As can be seen by the graph, the trend will level out but for several years middle and high schools could see much larger populations than they have experienced during the 1990s. The

demand for expanded high school space could be an expensive proposition for the SBA program, since high schools are significantly more expensive to build than elementary or middle schools. Please see Section IV for further discussion on building cost.

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[38] Massachusetts' population as whole has only grown by 4% over the same time period.

[39] MISER. Two sets of MISER enrollment projections are used in this report. The first set of data used projects enrollment to 2006-7. This data is used for *Figure* XX. The second set of data, used to construct the Enrollment project map extends the projections to 2010. We have not used the 2010 data throughout because, as can be seen by the map, the data for several towns is incomplete.

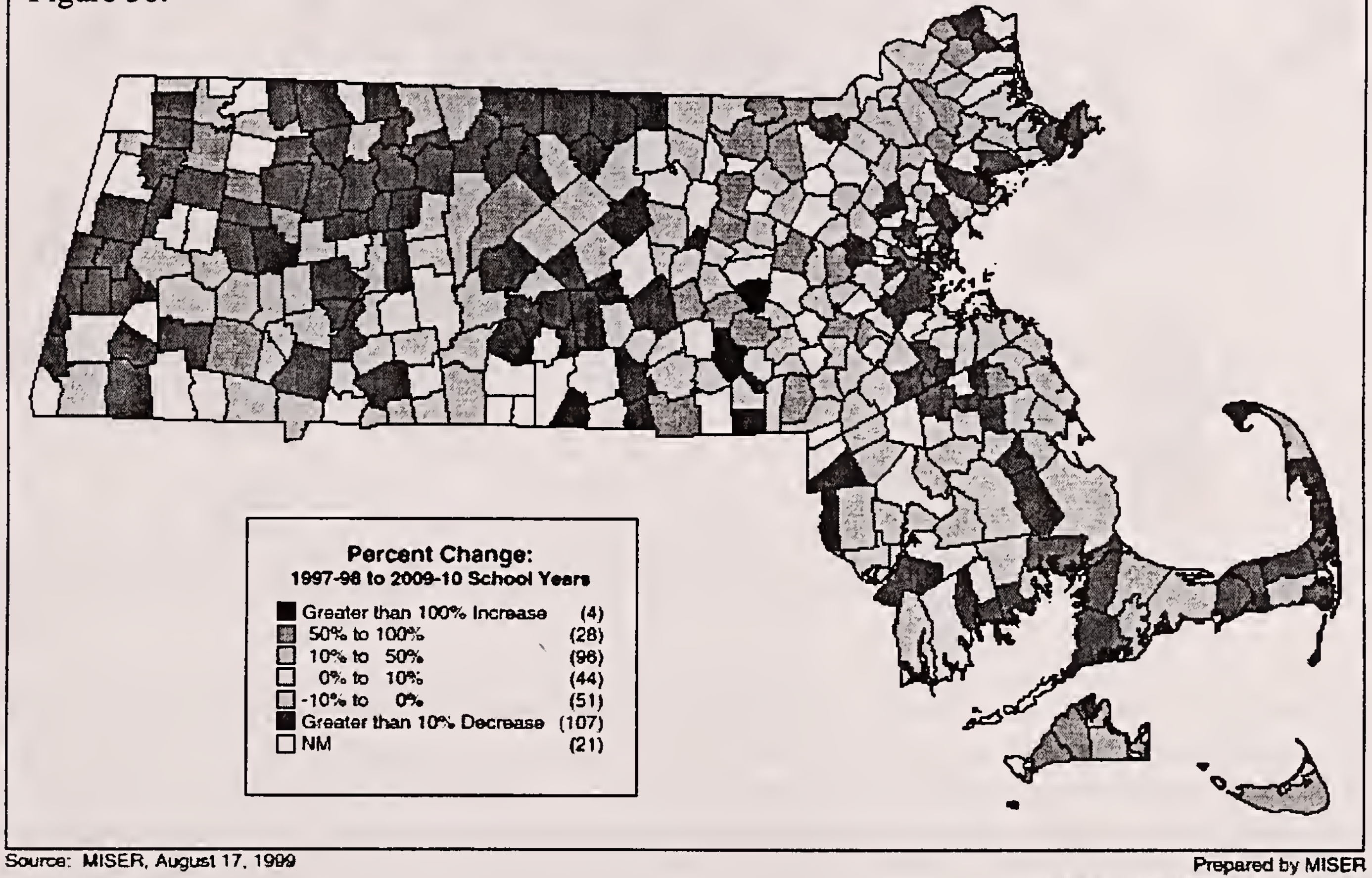
[40] MISER.

The enrollment bubble phenomenon is a common cyclical occurrence in schools. Despite its regular appearance, school districts currently have limited means of addressing the temporary increase; state assistance is only available for constructing a new larger building or building additions on first, the elementary school, then the middle school, then the high school as the bubble passes through the system.

Although public school enrollment in the aggregate is expected to be level and perhaps decline over the next 5 to 7 years, there is now an enrollment bubble working through the lower grades that will create demand for new school buildings or additions at each grade level. Further demand will also be created by the shifting of the population within Massachusetts, described in the following sections.

MISER 2010 Enrollment Projections

Figure 36:


Percent Change:
1997-98 to 2009-10 School Years
■ Greater than 100% Increase (4)
▨ 50% to 100% (28)
▨ 10% to 50% (96)
☐ 0% to 10% (44)
▨ -10% to 0% (51)
■ Greater than 10% Decrease (107)
☐ NM (21)

Source: MISER, August 17, 1999

Prepared by MISER
University of Massachusetts at Amherst

Data from Department of Education; Map prepared by Executive Office for Environmental Affairs

D. Demand for the SBA Program – Mobility Within Massachusetts

Although aggregate Massachusetts public school enrollment is projected to remain level or perhaps decrease over the next 7 to 10 years, there will be significant enrollment changes in many school districts as our citizens move to find new jobs, better schools, or new housing.[41]

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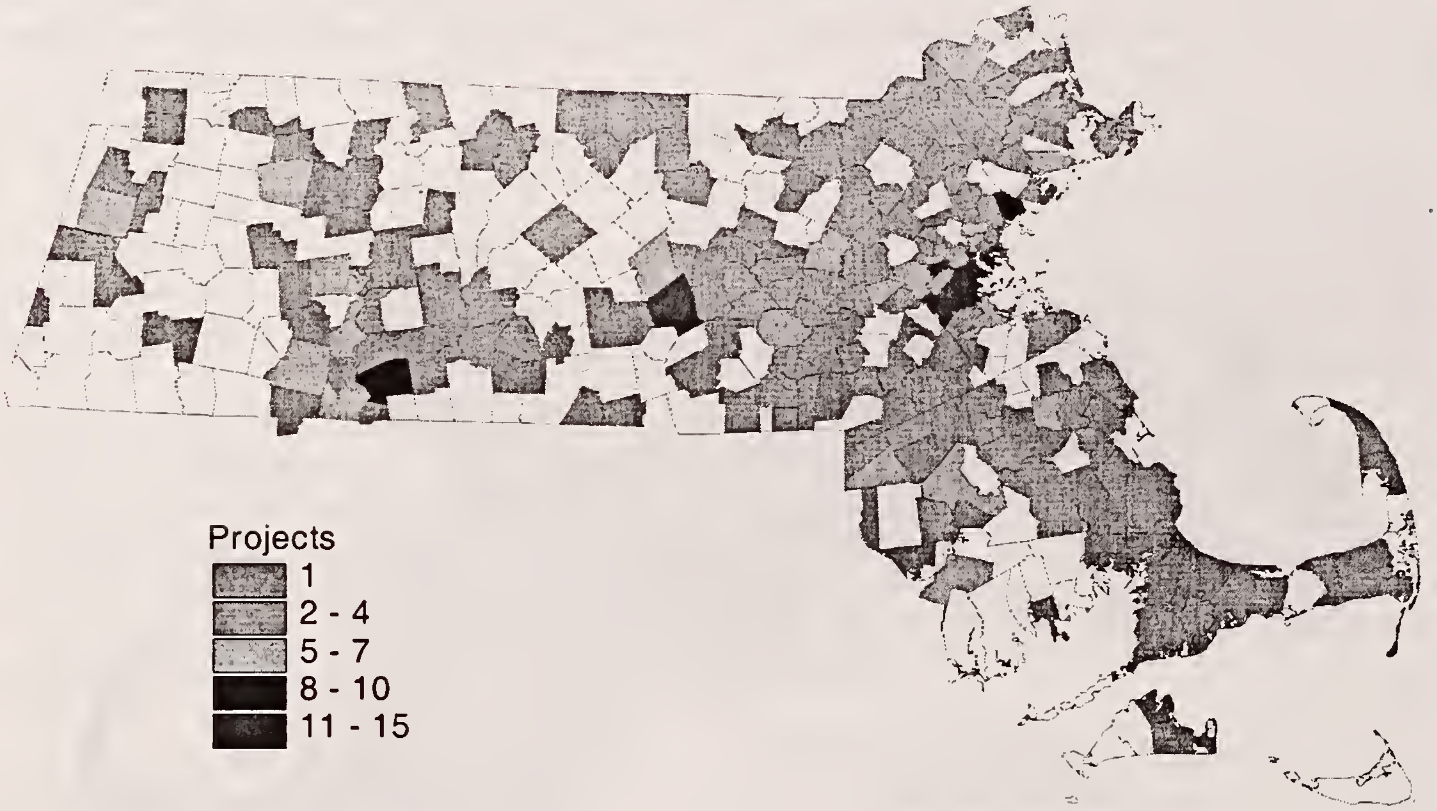
[41] *Reasons for Mobility of Massachusetts Population – Go Where the Jobs Are*

As can be seen in *Figure 36*[42], district by district enrollment projections through 2010 illustrate the expected enrollment shifts.

SBA Projects Vs Enrollment and Population Growth
Figure 37 illustrates where all new SBA projects over the last 9 years, plus those on the waiting list have been built. Many of the waiting list projects have already been constructed. The SBA projects shown are both new construction and renovation projects.[43,44]

Figure 37: SBA Projects FY1990 to Present



The map in Appendix F shows employment growth in the Commonwealth from 1991-1998. This map illustrates high job growth just west and south of Boston, in some communities on Cape Cod and in Southwest Massachusetts. These high job growth areas also correspond to increased populations from 1990-1995 (illustrated in Appendix G). Sixteen municipalities experienced employment growth of 25% or higher during this time period. All but three of these municipalities experienced increased population from 1990-2010 and two-thirds experienced double digit population growth.

[42] NM (not mapped) due to incomplete data.

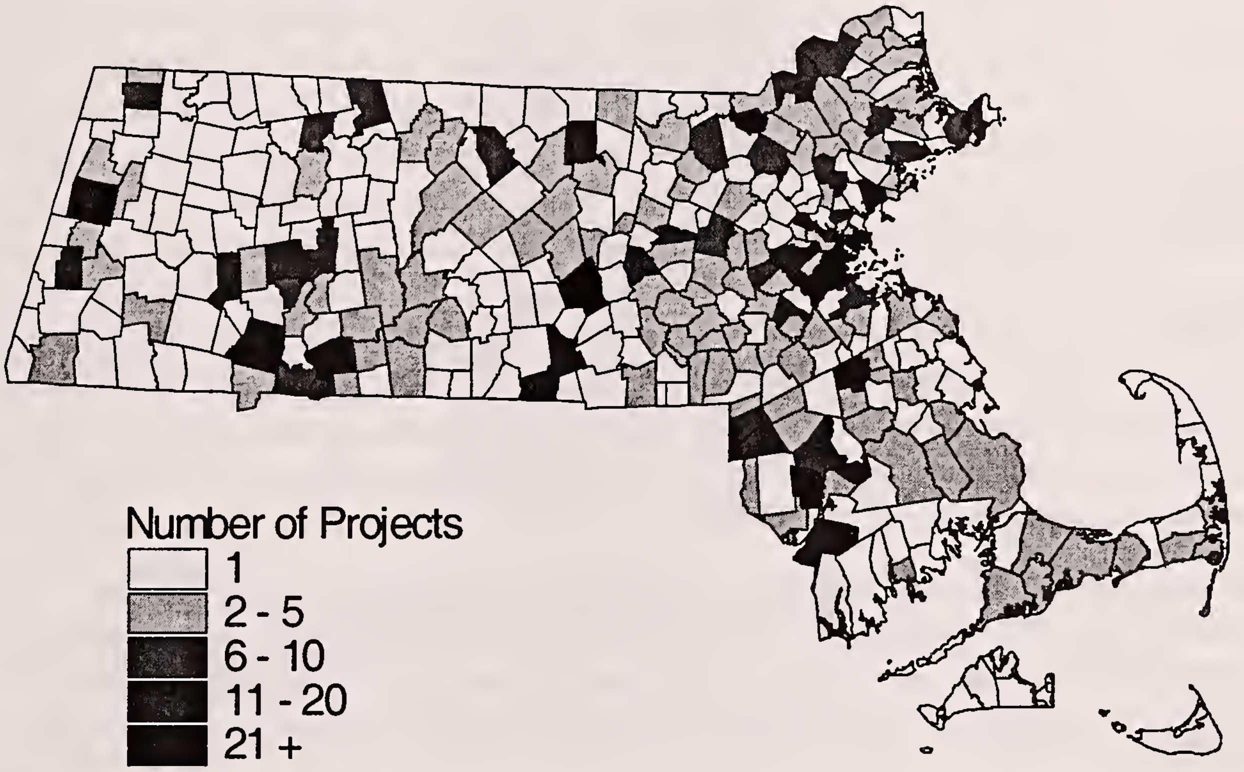
[43] It should be noted that there are 54 regional school districts in which 154 cities/towns participate. For the purposes of this map, only the town in which the school was built is shaded. Other members of the regional district for which schools are built, who benefit from the school project, are not shaded. This is important to note, especially when viewing western and central Massachusetts where schools built in one community benefit many surrounding towns. Please see Appendix H for a listing of regional districts and member towns.

[44] It is important to note that, for regional school districts, only the municipality in which the school was built is shaded on the map (or, in cases where the town in which the construction occurred was not known, a single town in the district was chosen for shading). Many of the municipalities on the map with no recent school projects are members of regional districts and schools have been built in surrounding towns. The schools are accessed by all members of the regional districts.

Figure 38 is even more striking. It illustrates where school building projects have been constructed over the last 28 years. Please see Appendix E for a list of all municipalities in each category shown on *Figure 38.*

Figure 38:

Number of SBA Projects by Municipality 1971 to Present



Data from Department of Education; Map prepared by Executive Office for Environmental Affairs[45]

Figure 39 shows the 23 municipalities that are predicted to experience enrollment decreases of 30% or greater. This information is compared to the number of SBA projects constructed in the municipality or regional school district of which the municipality is a member since 1990 (including waiting list projects). All but eleven of these districts have constructed SBA projects during this time period.

***Figure 39*: Projected Enrollment Decreases and SBA Projects Built Since 1990**

Municipality	% Projected Change in Enrollment 1997-98 to 2009-10[46]	# of SBA [47]Projects Constructed (including those constructed within regional school district)
Wendell	-54.6%	0
Ashfield	-50.0%	5

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[45] See footnote 11.

[46] MISER.

[47] Department of Education.

Leverett	-49.4%	1
Provincetown	-48.6%	0
Egremont	-45.4%	1
Bernardston	-42.6%	4
Lenox	-38.1%	2
Royalston	-38.0%	2
Stockbridge	-37.6%	0
Heath	-34.2%	0
Cambridge	-34.2%	4
Montague	-33.9%	0
Gill	-33.8%	0
Monterey	-33.6%	1
Athol	-32.8%	2
North Brookfield	-32.7%	0
West Stockbridge	-32.4%	0
Medford	-32.4%	0
New Marlborough	-31.0%	1
Easthampton	-30.9%	0
Phillipston	-30.0%	2
Nahant	-30.7%	0
Dennis	-30.4%	2

As can be seen in *Figure 40*, 33 municipalities are projected to experience 50% or greater enrollment growth from 1997-98 to 2009-10; four of these municipalities (Harvard, Douglas, Rockport, and Millville) have not received any SBA reimbursement for school building projects since 1971. It can be expected that these districts will need to increase educational space during the next several years.

***Figure 40*: Projected Enrollment Increases and SBA Projects Built Since 1971**

Name	Projected % Change in Enrollment 1997-98 to 2009-10[48]	# of SBA Projects Constructed (Includes Waiting list)[49]	# of SBA Projects Constructed in Regional District
Greenfield	49.5%	7	
Tyngsborough	51.7%	1	
Goshen	52.5%	0	1
Westwood	53.3%	8	
Harvard	54.5%	0	
Chilmark	57.3%	0	1
Petersham	61.9%	2	5
Shrewsbury	62.5%	1	
Merrimac	66.5%	2	4
Groton	68.6%	4	4
West Tisbury	70.0%	1	1
Douglas	70.3%	0	

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[48] MISER.

[49] Department of Education.

Sudbury	70.6%	6	7
Franklin	72.0%	2	
Weston	72.1%	3	
Middleton	72.4%	2	11
Bolton	73.3%	2	3
West Newbury	75.7%	2	4
Boxford	76.3%	3	11
Dover	76.5%	2	2
Rockport	77.2%	0	
Plainfield	78.4%	0	3
Blandford	78.9%	0	6
Hopkinton	80.3%	5	
Westford	81.8%	6	
Westborough	82.8%	3	
Hanover	83.2%	1	
Dunstable	86.4%	0	4
Savoy	86.8%	0	1
Southborough	106.4%	1	7
Upton	125.7%	5	5
Millville	136.3%	0	0
Chesterfield	139.7%	0	1

Figure 41 shows the 14 municipalities that have built more than 11 new projects since 1971 (including current waiting list projects). The 1997-98 to 2009-10 predicted enrollment change is shown for each municipality.

Municipalities with approved voluntary racial desegregation plans in place are noted with an asterisk.

***Figure 41*: Municipalities with 11 or More SBA Projects Built Since 1971**

City	Number of SBA Projects[50]	1997-98 to 2009-10 Projected Enrollment Change[51]
Boston*	135	-18.1
Springfield*	51	-24.5
Westfield	38	-13.1
Brockton*	29	-17.4
Worcester*	27	-22.6
Lynn*	23	-7.6
Lowell*	21	-15.8
Pittsfield	21	-25.9
Lawrence*	18	-9.6
Somerville*	17	-3.8
Fitchburg*	12	7.8
Methuen*	12	1.8
Newton	12	-8.3
Northampton*	11	-21.1

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[50] Department of Education.

[51] MISER.

Twelve of the 14 municipalities that have constructed the most SBA projects are projected to experience enrollment decreases from 1997-98 to 2009-10. Only Fitchburg and Methuen are predicted to experience any enrollment growth during this time period – though for both municipalities predicted growth is small.

Of the 14 communities that have built the most SBA projects since 1971, 11 have approved voluntary racial desegregation plans in place and receive 90% reimbursement for all SBA projects in their communities. These 11 communities, which represent 19.6% of Massachusetts public school enrollment in 1997-98, have constructed 356 of the 1,092 projects during this time period. See Section IV for more information on racial desegregation plans and the SBA program.

It is clear that enrollment and population shifting will continue over the next decade, driving continued demand for the school building program even while aggregate enrollment remains level or declines slightly over the same time period. It is also clear that the reimbursement structure creates demands on the program – communities with 90% reimbursement rates have built the most projects over the last several years regardless of population decreases. Recent school construction does correspond with expected or actual enrollment or population trends. Our citizens will continue to move freely around the state following jobs and seeking better schools. This in turn, will create rapid enrollment increases and decreases across the Commonwealth, underscoring the need for a flexible school construction program equipped to address both immediate and long-term classroom needs.

E. Demand for the SBA Program – Conclusions

The sheer size of the Baby Boom created the initial School Building Assistance act in Massachusetts. Today, the need for the program remains due to local fiscal constraints, an aging and poorly maintained building stock, and enrollment changes caused by movement of our citizens between cities and towns of the Commonwealth.
Although Proposition 2 ½ is often cited as a major fiscal constraint on local budgets, revenue and spending have grown faster than inflation since the early 1980s. However, for large commitments such as the appropriation necessary for a new school building, cities and towns must often seek Proposition 2 ½ overrides. While school override attempts are more likely to succeed than non-school override attempts, they still fail at a 60% rate.

Second, although our schools are reported to be in worse shape than many other schools in the nation, less than $9,000 per building of the $100,000 per building provided by the foundation budget was expended in FY1999 for extraordinary maintenance costs. School districts often spend these funds on other educational uses due to the political realities of their own budget process. Due to the high reimbursement rate we provide for school construction, it is often in the financial interest of the municipality to forgo proper building maintenance in favor of receiving state funds for a new school at a later point.

Third, while enrollment in the aggregate is expected to remain level and possibly decline over the next 10 years, there will continue to be significant shifting between communities as households follow jobs and look for better schools creating continued demand on the SBA program:

- 270 municipalities are projected to experience some enrollment growth from 1997-98 to 2009-10;
- 73 municipalities are projected to experience at least 25% enrollment growth from 1997-98 to 2009-10; and

- 32 municipalities are projected to experience at least 50% enrollment growth from 1997-98 to 2009-10.

In addition, recent school construction does not correspond with anticipated enrollment and population growth:

- 6 of the 33 municipalities that are projected to experience 50% or greater enrollment growth from 1997-98 to 2009-10 have not constructed any SBA projects since 1971;
- 12 of the 14 municipalities that have constructed the most SBA projects since 1971 are projected to experience enrollment decreases from 1997-98 to 2009-10; and
- 12 of the 23 municipalities that are predicted to experience enrollment decreases of -30% or greater from 1997-98 to 2009-10 have constructed SBA projects since 1990.

In addition, there are education policy choices that will add to demand for classroom space. Many districts have implemented, or are considering implementing full day kindergarten and pre-kindergarten classes which could double the number of classrooms necessary for kindergarten classes in a particular school. Political and parental pressure to institute more pre-kindergarten classes and to reduce class sizes place a greater premium on the classrooms available and create additional demand for more space through new school buildings or additions on existing buildings.

Despite a state financial commitment that places us 8th in the nation in per pupil spending, these demographic, fiscal, and political trends point toward an increasing demand for the SBA program well into the future.

VI. SBA Administration and Grant Approval Process

The first two sections of this paper have reviewed the legislative and financial history of the SBA program, and the current and future demographic and building trends. We concluded that the demand will continue to grow as citizens move between cities and towns to follow jobs and to find better schools for their children. It was also found that despite substantial resources for maintenance spending, our current building stock is in disrepair and will continue to need replacement into the foreseeable future. The demand for the SBA program will continue to grow despite a financial commitment that places us 8th in the nation in per pupil spending for construction of school buildings.

A full understanding of the current SBA program is essential to making programmatic, administrative and financial changes to it. The next section begins with a brief overview of the SBA program staffing, the philosophy of the staff, and availability of data for decision makers. Following that overview is an in depth review of the application process from the initial grant submittal to the final bond payment 20 years later, including a review of the role local governments as well as the Department of Education.

A. SBA Administration and Grant Approval Process – DOE Philosophy

SBA staff[52] have said that their programmatic objective is to ensure local approval of building projects by helping the building committee craft an acceptable project. Once a community decides it needs a school, the DOE's job is to help them make it happen.

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[52] Since the summer of 1999, most of the SBA staff has moved on to new positions.

The administrators of the SBA program strongly believe that its role under the School Building Assistance program is first and foremost to help local governments build school buildings. In order to achieve this end when questions arise, the Department often defers to local opinion on the necessity of a SBA project. To further this philosophy, the staff work closely with local groups to advise them on how to design a project that will garner local support.

This philosophy does not allow room for consideration of the Commonwealth's interest except as it is reflected by the local interest. If the project is requested by the municipality and district, DOE deems it to be in the best interest of the municipality and district, and therefore in the best interest of the Commonwealth. This determination of "best interest" does not include consideration of the Commonwealth's ability to fund additional projects, or the amount of indebtedness each project represents to the Commonwealth's bottom line. It also does not include enough consideration of other Commonwealth and local priorities such as open space acquisition and urban revitalization.

Further, the current program structure virtually ensures that the development of a school construction proposal will be based almost solely on educational interest, often at the expense of other local considerations. A municipality also has an interest in maintaining parkland and open space, fostering a vibrant downtown, and managing fiscal resources in the most efficient manner possible. The inflexible nature of the current SBA program – allowing reimbursement only for significant construction projects - often provides no choice for a municipality but to move out of a down town location, use parkland or open space for a school site, or opt to build or renovate a school building in lieu of a less costly alternative. Contributing to this is the regulatory establishment of large classroom size requirements, the staff-applied 50% renovation cost rule, staff-applied acreage requirements, and, in the most basic way, the 70% cost subsidy regardless of construction choice.

Without new statutory and administrative program flexibility, the municipality's true "best interest" often cannot be met.

B. SBA Administration and Grant Approval Process – SBA Staffing and Administration

The SBA program is one of 5 programs administered by 5 full time staff of the SBA Unit of the Department of Education. Approximately 85-90% of staff time is spent administering the SBA program. The staff that oversees the SBA program is also responsible for oversight of several state and federal financial aid programs including:

- public school transportation aid;
- regional school aid;
- collaborative school assistance; and
- federal impact aid.

For the SBA program, two staff members serve as the program administrators; one staff member audits school project costs and designs; one staff person follows up on research requests; and one staff member serves as an administrative assistant. During the time period of this study, staff members had combined SBA experience of 60 years.

Even with so few staff they visit each school project site. Over the years, several staff members have acquired a significant amount of knowledge about school design and construction from reviewing project submissions and visiting school projects. They use this knowledge during site visits to advise local building committees on such topics as the use of proper building materials, appropriate designs for school buildings, and likely costs of renovating schools versus building new schools.

The SBA director exercises extensive discretion in developing projects with cities and towns. This discretion can take the form of waivers for room and building size. For example, cost waivers may be granted to allow larger buildings to be funded or size waivers may be granted to allow smaller classrooms can be used. Discretion is also used in the SBA administrator's cursory review of enrollment projections for which there is no formal review.

C. SBA Administration and Grant Approval Process – Access to Data

The files for the SBA program stretch back to 1950. These files are not electronically maintained. For the past 10 years, a limited amount of information on each project has been maintained in a PRIME computer database system, but the data is not complete or easily manipulated. The information in the PRIME system focuses on the Commonwealth's share of the project cost rather than on the total project cost. The cost information in the system is based on estimates developed by the applicant until the final project costs are available through the final audit. (Please see the Cost Management - 1998 State Auditor's Report section on Section IV for more information on final audits and project costs.)

The information in the system includes the estimated approved construction cost, the estimated approved interest cost, the reimbursement rate, the amount of the bond issued, the estimated state grant payment and the estimated state annual payment. Even though some of the project information is "computerized," most grant calculations are done by hand and then entered into the database.

The PRIME system does not contain information on square feet built, project location, change orders submitted, waivers granted, enrollment projections used, or alternatives considered. Nor does it contain total cost information - the costs entered into the system are not total project costs but rather the total approved cost amounts upon which the Commonwealth grant is based. Since applicants are allowed to build projects larger than that which the state will reimburse, project costs are often larger than the original amount approved for reimbursement by the SBA staff. See Appendix I for an example of a PRIME project information screen.

The vast majority of project information is still maintained in paper files. Due to space limitations, SBA staff maintains only complete project applications for projects currently under review. For all other projects, the staff maintains a much smaller summary file. It is not possible to find full feasibility studies and long range plans for projects currently receiving payments without calling the municipality. DOE hopes to move towards an electronic system in the near future.

D. SBA Administration and Grant Approval Process – Project Process

1. Local Building Committee Convened

Timeline – Convening of committee and initial meetings may happen over several weeks or several months.

The school building construction process begins in the most simple way – someone in the municipality or school district decides a new school facility is necessary. Once the initiator achieves some level of local support to fund and build a facility, the municipality or school district will usually convene a building group that will take charge of getting necessary local

Figure 42: **Enrollment Projections Gone Awry**
During the recession of the early 1990s communities in the Route 495 beltway were building small schools. When the economy rebounded that area suddenly became a hot bed of activity where schools, which had been in the planning or construction stage during the recession were opening to capacity enrollment. This scenario in part prompted DOE's decision to require large acreage for buildings so that a school may easily expand if necessary.

approvals, work with DOE, develop a building plan and oversee the construction once the project is approved. Communities often work with DOE for a period of approximately 3 years prior to submitting a project application for review. During this period, the DOE staff works closely with the local building committee and other parties to ensure that, once the final application is submitted, it will receive staff and BOE approval.

As noted above in the *SBA Staffing and Administration* section, SBA staff exercise a great deal of discretion in the development and review of local SBA proposals. For example, SBA staff indicated that classroom size requirements may be waived, acreage recommendations may be waived for some communities but required for other communities, or expansive building ideas outside of the realm of the municipality's original plan may be suggested. In Milton, for example, the SBA administrator suggested that in addition to the community's $100+ million school renovation and construction plan, the municipality should build a $2 million field house, which presumably, would be reimbursed in part by the state.

Some municipalities have indicated that the project formulation process begins at the school level with the school committee and/or superintendent. Many times, the building facility committee is selected from members of the school committee. Often, they report, the local government has little or no input in the project design and site selection process (including review of alternatives to construction) prior to a proposal being submitted to town meeting or city council for approval. Some local governments feel that because they, the town planners, the town conservation commission and others are not involved from the outset their input to the project comes too late, often at a point when DOE has already worked with the local building committee for months or years on a particular project option – a guarantee of state approval.

2. Local Board Develops Feasibility Study/Long Range Plan

Timeline – development of the study and plan may take several months or a year or more.
As required by statute, the local board must conduct a needs analysis and a full review of alternatives to building construction.[53] The local board, the school superintendent, the school committee, or all three in collaboration, prepare the needs analysis and options review in the form of a long range plan and feasibility study. There is no official format for the studies, but most include current space inventories and building options such as options of building types or

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[53] The SBA statute, Chapter 645 of the Acts of 1948, as amended and printed as an appendix to Chapter 70 of the Massachusetts General Laws, states, "(a) In order to maximize the cost effective production of efficient and creative school projects the board shall require that every school project conform to the following standards and procedures: (1), that the applicant fully consider all available options for satisfying the described need, including tuition agreements with adjacent school districts, rental or acquisition and any necessary rehabilitation or usage modification of any existing building which could be made available for school use". *MGL Chapter 70 Appendix, section 1-11.*

The SBA regulations, 603 CMR 38.00 state, "Projects calling for a new school construction shall be approved and funded only where the feasibility and cost of renovating an existing school building, or of acquiring and existing building or buildings which are structurally sound, available within the community, and adaptable for school purposes, has been studied and the applicant demonstrates that the proposed new construction is the best available alternative to meet the projected need based upon the educational program to be housed, total cost effectiveness, and the public interest." *38.03 General Requirements: Capital Construction (10* consideration of alternatives to building, and a long range plan for programmatic, educational, community and enrollment needs. Most feasibility studies include engineering studies and cost studies of building options. The options reviews may (although do not necessarily) include differing new construction plans and renovation options. These studies vary greatly in quality and content. They may be six pages or two volumes in length and are prepared by various players. Some districts hire a consulting and architectural firm to conduct an in depth analysis of space needs and cost options. Others are prepared by the district superintendent with the assistance of a consultant.

2(a) Submit the Feasibility Study/Long Range Plan DOE

The staff's review of the feasibility study and long range plan is perfunctory since the Department has typically spent a great deal of time with the municipality developing an acceptable plan. In addition, DOE gives a high degree of deference to the municipality's assertion that a new school is necessary as well as their ultimate selection of a project option. The goal of developing a feasibility study and a long range plan is less of a weeding out process than a time for SBA staff to work with the school building committee to develop a plan that will be accepted by the town and that meets the requirements of the SBA program.

3. DOE Conducts Building Needs Conference

Timeline – must occur by January 1 in the year in which the district wishes to apply.
After the applicant submits their project application to the DOE, the Department conducts a building needs conference with the local building group. Prior to the building needs conference DOE will spend three to four days with the district to make suggestions for the new building and the application process, further ensuring a smooth approval process. The applicant must provide the following information at the needs conference:

- Space Inventory - determination of amount of education space currently available for the grade level for which new space is to be constructed.
- Feasibility Study/Long Range Plan - all information provided to DOE is first presented to the school committee for approval. The regulations DO NOT require Selectman or other municipal approval before presentation of the study to DOE.
- Rationale for Construction – four questions on consideration of construction alternatives. The first 3 questions require a yes or no response. Question 4 requests a cost comparison of alternatives, HOWEVER
- Enrollment projections for the next 10 years - projections are generally compiled by the New England School Development Council (NESDEC). DOE will challenge enrollment projections if they appear unreasonable when compared with basic knowledge of the area. In general, DOE views enrollment projections to be an imperfect art that makes it virtually impossible to predict enrollment more than 5-10 years out. Please see *Figure47* for information on NESDEC enrollment projection methodology and *Figure42* for an example of unsatisfactory enrollment projections.

DOE staff visits the communities extensively to help move the projects toward approval. DOE staff visits all project sites, using the time to provide guidance to the local building committee.

4. Local Board Hires Architect
Timeline – the architect may be hired several weeks or several years after the initial convening of the building committee.
The local building committee hires an architect during the planning stage to conduct a needs study and develop building alternatives for the community. The local building committee then hires an architect to design the project for submittal to DOE. Please see Section IV for more information on architect fees and the architect selection process.

Figure 43: **Required Application Documents**

1. Copy of the Long Range Educational Plan with Vote of the School Committee
2. Rationale for Capital Construction form
3. Inventories of Existing School Space form
4. Enrollment Projections (10 years)
5. Appointment of School Building Committee (Town Meeting or other relevant vote)
6. Education Specifications & Preliminary Schematic Drawings approved by the School Committee (vote)
7. School Committee vote to approve proposed site
8. Local Conservation Commission approval
9. Local Historical Commission approval
10. MEPA checklist
11. Certified vote of authorization of total project funds with copy of warrant of the vote
12. Certified vote of Proposition 2 ½ debt exclusion and evidence of the expiration of any referendum period if applicable.
13. Proof of site ownership
14. Preventative Maintenance Plan
15. Cost estimate and plan for financing.
16. Water service, sewer service, Public Health, Public Safety and Building Inspector approval
17. Final Construction documents
18. Architect Certifications
19. Town counsel or legal representative sign off as to whether the town has any issues pending with the Massachusetts Commission Against Discrimination

5. Local Submittal of Formal SBA Grant Application
Timeline – depending on the complexity of issues to be resolved at the local level, the formal application submittal may occur a few months or several years after the initial convening of the building committee.
The final application is submitted to the Department for a cursory review – all DOE decision making has been completed by this point in the process. The application consists of a series of forms for completion by the district and relevant information from the Department. The types of forms vary – some are for local sign off, some require information on the space to be built, and some require "yes" or "no" responses to questions about the types of options considered, as well as other questions. The Department ensures that cost and space requests are within the guidelines set in the SBA regulations.

If there are no major changes to the district submission since the building needs conference the Department will approve the application. The application states that once the district has received notification that the application is complete, "you are free to commence construction if you so desire and have local authority to do so." There is no further statement indicating that the project may not be approved by the Board or that the Board is not obligated to fund the project until it is so approved as stated in statute.

The SBA application requires signoff from the local historical commission and unanimous consent from the local conservation commission. In addition, the Massachusetts Environmental Protection Agency (MEPA) recently created an environmental checklist that the municipality must complete and submit with the application. If a MEPA review of the project site is required, certification of this review from the Secretary of Environmental Affairs must also be submitted with the application. MEPA ultimately has veto power over project sites under their review. It is the municipality's responsibility to ensure that the land on which the school is to be built is not designated farmland. For a complete list of required application documents see *Figure43.* Please see Appendix J for a copy of the application.

Figure 44: **Maintenance Plans**
Chapter 645 of the Acts of 1948, as amended, requires the Board of Education to determine that any "reconstruction, renovation or improvement has not been necessitated, in whole or in party by the failure" of a school district to make "adequate and prudent provisions for the care and maintenance" of school buildings. The SBA administrators do nothing to make this determination. However, they do require a prospective maintenance plan for the new SBA project to be constructed. We reviewed three maintenance plans from three school districts that were submitted in 1996 and 1997. The maintenance plan form asks 4 questions:

1) Description of the regular routine maintenance schedule implemented to insure the maximum life of each building system, surface and major equipment;
2) Description of the administration of the plan;
3) Description of the system of checks and reporting;
4) Description of the maintenance records and record keeping system.

Two of the three plans reviewed contained brief one to three sentence answers to the questions briefly stating who was in charge of cleaning or maintaining the building, who oversaw the work and how the records were filed. These two plans do not discuss in any detail the specifics of building maintenance, such as when and how often specific equipment will be maintained and cannot even be termed "maintenance plans" in any true sense of the phrase. The third plan provided some additional information through an attached maintenance schedule. The schedule discussed, in brief, the regularity with which the heating ventilation and temperature controls, the roof, the fire alarm system, the floors, and the kitchen equipment would be maintained. (Please see Appendix K for copies of the maintenance plans reviewed).

It is important to note that this is often the first time that the building committee has approached MEPA, the Department of Food and Agriculture, the local conservation commission and the local historical commission for project discussion and sign off. Given the amount of work that has been undertaken (up to three years) and the level of support it has already garnered, the public pressure on these agencies to approve these projects is enormous.

5(a) Statutory Authority versus Administrative Practice

The SBA regulations and statute allow the Board of Education much greater control over project approval than it currently employs. The Board is directed to determine that the project is in the best interest of the municipality and the Commonwealth, however, no consideration is given to the Commonwealth's ability to pay for the project or the long-term obligation that each project approval represents. Further, the project approval process does not adequately consider other state and local priorities such as urban revitalization or preservation of open space and parkland.[54] Although the application and regulations state that the new construction must have a 50 year life, no review is given to the life span of the building that is being replaced or renovated. The Board does not determine that the previous building, perhaps built with SBA funds, achieved its useful life before approving a new project. BOE also does not review the condition of an old building to see if poor maintenance has created the need for a new school building (See *Figure 44*). The SBA statue also provides the BOE with approval over the contracts between the applicant and the architect and construction firm. BOE exercises no such oversight or approval.

In addition, the regulations and statute direct the Board to grant approval to SBA projects only as funds are available. This statutory change, enacted in 1987,[55] was intended to prevent the BOE from obligating the Commonwealth for projects for which it had no funds. To offset the waiting list that would be created by this requirement and to accommodate municipalities' desire to begin construction as soon as possible, applicants are told they may begin construction once the SBA staff has approved the project. The notice of SBA staff approval does not indicate that BOE approval is necessary before the applicant can be assured of funding. It would be politically difficult – perhaps impossible - for the BOE to disapprove a project once construction has begun. In fact, according to DOE staff, the BOE has never rejected a project recommended by the staff. Given this, staff approval of a grant application becomes the de facto point of financial obligation for the Commonwealth. While the number of projects the BOE may approve is statutorily limited by availability of funding, the staff has no such limitation on the number of projects it approves.[56]

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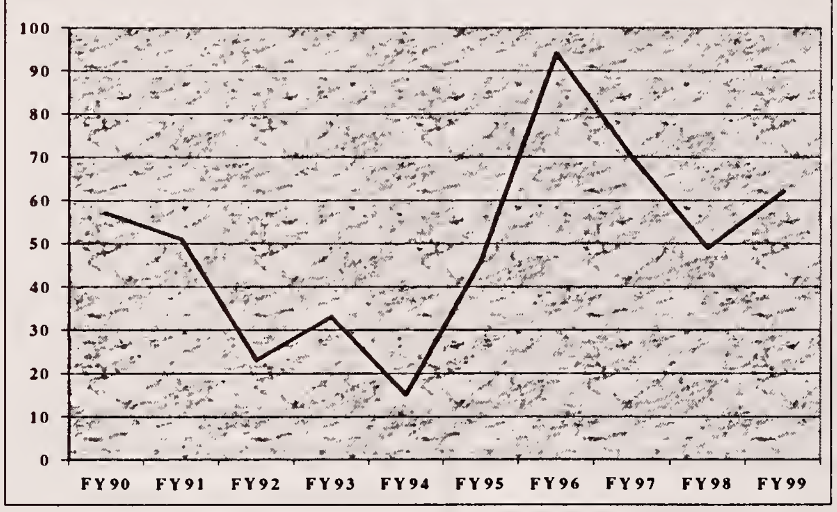
[54] The former SBA administrator did discourage use of parkland for some school projects.
[55] Chapter 746, Section 9, subsection c of the Acts of 1987.

5(b) The Sunset Rush

Over the past several years, the number of project application submissions has increased greatly as the program's sunset date approaches. The SBA grant program has never been made into a formalized, permanent grant program. Instead, the program is scheduled to end after a set number of years, most often 3-5 years. Therefore, through special act every so many years, the legislature extends the program. The program's uncertainty dramatically increases the number of project submissions in the final year of the scheduled program.

For example, in 1987 the Act was extended through the end of FY96. As can be seen in *Figure 45*, a large increase in project submissions occurred in FY96. In 1996 the Act was again extended through FY2001 and in the FY99 General Appropriations Act it was extended through June 30, 2003.

Figure 45: BUILDING PROJECTS SUBMITTED TO DOE



6. Department Approves Project for Placement on Waiting List Timeline – applications submitted by June 1 will be approved for the waiting list that year after the following fiscal year budget is approved. .[57] The Department approves the project and submits it to the Board of Education for approval for placement on the waiting list.

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[56] No Legislative action has been taken to stop the use of such a waiting list.

[57] The state fiscal year begins on July first. Usually the fiscal year budget is approved during June-August.

Figure 46: **Waitlist Priority Ranking**

The SBA statute requires that projects be prioritized for payment with the following order of priorities:

1. structurally unsound or otherwise in a condition seriously jeopardizing the safety of school children, where no alternative exists;
2. needed to prevent severe overcrowding expected to result from increased enrollments or to eliminate existing severe overcrowding;
3. needed to prevent loss of accreditation;
4. needed for the replacement, renovation or modernization of the heating system in the schoolhouse to increase energy conservation and decrease energy related costs in said schoolhouse; and
5. needed to replace, or add to obsolete buildings in order to provide for a full range of programs consistent with state and approved local requirements."[1]

The Board prioritizes projects based on a formula created by DOE regulation. The district completes a worksheet that includes the following calculations:

$$\frac{\text{(Recommended Net Sq.Ft. x Grant \%)}}{\text{Existing Net Sq.Ft.}} + \frac{\text{Recommended Sq. Ft.}}{\text{Existing Sq. Ft.}}$$

The "recommended Sq. ft." is the square foot space per pupil set by SBA regulation for the grade level of the school project being proposed. The "Existing Sq. ft." is the net square feet per pupil available in the applicant school district at the grade level of the proposed project (existing educational Sq. Ft. divided by the most recent enrollment). As the grant % increases, the project is more likely to have higher priority on the waitlist. The Grant component rewards those projects that achieve a larger percentage of state funding

A district that is on accreditation probation receives an extra point and a district that receives an accreditation warning receives an extra 1/2 point added to the formula calculation. The higher the final number, the higher the project's priority.

This formula does not consider life safety projects before overcrowding projects when determining where a project will be on the waiting list for funding.

In 1993 projects on the waitlist were frozen as prioritized to eliminate inter-year shuffling of projects that caused some low priority projects to languish without funding. Projects from 1994 were then prioritized and tacked on to the bottom of the list. Each year since the waiting list has remained frozen and projects for the new year are added to the end of the list. Freezing the list allows low priority projects from one year to be funded before higher priority projects that are submitted in the following year. Freezing the list also creates an incentive for districts to submit school project applications as soon as possible even if in-depth option analysis has not been completed.

7. Municipality Finances and Begins Construction; Local Board Hires General Contractor

Timeline – construction most often begins immediately following waiting list approval, or the community may wait until funding becomes available. Following the building needs conference and project approval the municipalities hire a construction firm to build the school. After the project is added to the SBA waiting list for funding, the municipality finances and begins construction. If a municipality begins construction *before state funds are available, they will issuebond anticipation notes (BANs) for the entire cost of the project.*

8. State begins making reimbursement payments.

Timeline – the waiting list for funding is currently 4 to 5 years long.

The state begins reimbursing based on the total approved cost of the project when sufficient funds are appropriated. Once the state begins making reimbursement rates to the municipality, the municipality will roll over the BANs into 20 year bonds. The Commonwealth reimburses the interest costs associated with the issuance of the BANS at the same rate the project is to be reimbursed.

E. SBA Administration and Grant Approval Process – Conclusions

The five staff members who manage the SBA program do what they can with the resources at their disposal. Staff relies heavily on local assertion in the project review process. The BOE and SBA staff have extensive administrative authority granted by the SBA statute which they do not exercise. There is no comprehensive information available for decision makers; there is no historical information available about the program without extensive staff work.

The SBA project review process involves an extensive amount of up-front work between DOE staff and the applicant before an application is submitted for review. During that periord, DOE staff exerts a significant discretion and influence on the proposal. Once submitted, the review process is pro-forma. Other state and local agencies and commissions required to review the application such as MEPA and the local historical commission feel pressured to approve the projects since three or more years have often been invested in the particular project before it crosses their purview. In cases where the school district has initiated the project request, many local governments also feel that their involvement in the process comes too late.

While the SBA statute requires the applicant consider specific options to building, the quality and comprehensiveness of these reviews vary greatly by applicant and, in general, are not treated seriously by the staff or the applicant.

Although enrollment projections are one of the largest predictors of project cost, SBA staff does not require the use of specific projection methods, any uniform presentation method, or even a uniform projection period although a 10 year projection is required by statute. SBA staff has indicated that they eyeball the projections to make sure they appear reasonable but do no standardized review or comparison to any benchmarks.

Once DOE staff has approved the application, the applicant is told they can proceed with the project. No mention is made of the fact that the BOE still must approve the project before they are assured of funding, or that the BOE may reject the project regardless of DOE staff opinion. However, according to SBA staff, such a rejection has never occurred, i.e. DOE staff approval has become de facto BOE approval.

The fact that the SBA program has an expiration date ensures that many applicants rush to submit projects before the deadline, regardless of quality of the proposal, in an effort to retain their current reimbursement rate.

VII. Program Cost Drivers

In the previous section we discussed the DOE staff philosophy, the program staffing, and availability of data for decision-makers. We further explored the administrative procedures of the current program and the role of local and state government in the approval process.

DOE staff relies heavily on local analysis to determine that a school building project is necessary; DOE and BOE have extensive statutory authority that they do not exercise; and other state and local entities with project approval authority feel they are involved too late in the decision-making process to have any influence or role.

This section will explore the six variables that most directly influence the overall cost of the SBA program:

- Maximum Grant Amount
- Cost and Space Waivers
- Construction Process
- Program Regulations
- Program Management
- Racial Desegregation Projects

A. Program Cost Driver - Maximum Grant Amount

The determination of a maximum grant amount for which the applicant is eligible involves a formula that considers projected enrollment, allowable square feet and maximum reimbursable cost per square foot factors. This formula establishes a cost ceiling which the applicant cannot exceed without a waiver unless they wish to fund the excess grant themselves. This maximum grant amount serves as a benchmark for which communities aspire, with which potential builders can create winning bids, and by which municipalities can judge the construction cost estimates they receive for projects.

The formula used to determine the maximum grant award is as follows:

(1) PROJECTED ENROLLMENT x (2) SQ/FT PER PUPIL x (3) MAXIMUM ALLOWABLE COST PER SQ/FT x (4) REIMBURSEMENT RATE

Maximum Grant Amount – Variable 1: Projected Enrollment

As part of the application process, districts prepare enrollment projections for the Department. These projections are generally completed by contracted consultants such as the New England School Development Council (NESDEC). See *Figure47* for NESDEC methodology. The Department currently requires 10-year enrollment projections although there are no methodology or presentation requirements, and SBA staff does not request that applicants submit the assumptions or methodology used. The Department generally does not question the projections unless they appear unreasonable based on staff knowledge of the area. Nor does SBA staff compare the projections to any centrally established benchmarks.

As part of the SBA program review process we requested full application submissions from many districts across the state who were on the FY99 project waiting list. Twenty districts were called and nine responded[58]. The districts selected were a cross section of projects representing different types of projects (renovation and new construction) from a variety of demographic areas. The districts reviewed were also agreeable to submitting the applications for our review.

After a review of nine enrollment calculations and submissions for SBA grants it is apparent that applicants use no standard calculation or standard factors for projecting future enrollment. Projections reviewed ranged from a five-year period to a 10-year period projection despite the DOE requirement of 10-year projections. Of the nine applications reviewed five used five-year projected enrollments, three used 10-year projected enrollments and one used a nine-year projected enrollment figure. Some were prepared by NESDEC; others did not list how, or by whom, the projections were calculated, nor are the applicants required to, according to the DOE form. Some enrollment projections considered circumstances unique to individual towns and others included projections for non-resident, tuition students.

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[58] The SBA program administrators do not keep this information on file due to space constraints.

One district submission reviewed did not submit to DOE the NESDEC projections they commissioned, but rather presented the school's highest one-year enrollment since the school's opening in 1957. The NESDEC projection anticipated an enrollment decrease over the next several years of almost 5%. The enrollment projection presented to DOE would accommodate an enrollment increase of 18%. The district's decision to use the larger enrollment number was based in part on the desire to become a choice district and accept tuition students. It should be noted, however, that this project has not been constructed. Due to higher than anticipated costs, all bids for this project were rejected.

Enrollment projections play a large role in the overall allowable project cost. For example, consider a high school reimbursement calculation for FY00 (these calculations do not include interest costs):

Figure 48 indicates that for a typical high school, the individual per pupil allowable cost amount is $28,365 (155 sq/ft/pupil x $183/sq/ft). If a school district adds 10 students (1 additional student per year of projection), that maximum allowable grant increases by $283, 650. If a school district adds 50 students (5 additional students per year of projection) the allowable cost increases by $1,418,250.

Figure 47: **NESDEC Enrollment Projection Methodology**
NESDEC uses a modified cohort survival technique, the most frequently used method of preparing school enrollment forecasts. The technique is modified in order to move away from forecasts that are wholly computer or formula driven. Such modification permits the incorporation of important, current town-specific information into the generation of the enrollment forecasts. Basically, percentages are calculated in from the historical enrollment data to determine a reliable percentage of increase or decrease in enrollment between any two grades. For example, if 100 students enrolled in Grade 1 in 1996-97, increased to 104 students in Grade 2 in 1997-98, the percentage of survival would have been 104%, or a ration of 1.04. Such ratios are calculated between each pair of grades or years in school over several recent years.

The ratios used are the key factors in the reliability of the projections, given the validity of the data at the starting point. The strength of the ratios lies in the fact that each ratio encompasses collectively the variables that could possibly account for an increase or decrease in the size of a grade cohort as it moves on to the next grade. Each ratio, then, represents the cumulative effect of the following factors:

1. Migration, in or out, of the schools
2. Retention in the same grade
3. Changes in school program
4. Drop-outs, transfers, etc.
5. Births and deaths
6. Housing growth

Based on a reasonable set of assumptions in regard to each of these factors, ratios most indicative of present/future trends are determined for each pair of grades or years. To project for the future, the ratios thus selected are applied to the present enrollment statistics for a predetermined number of years.

If any of these assumptions needs to be altered in the future, so, too, will the projections. It is important to note that NESDEC annually updates projections for affiliated school districts at no cost. This provides an opportunity for the District to plan adequately for any changes that might occur.
Courtesy of NESDEC

Figure 48: **Impact of Enrollment on Grant Amount**

Projected Enrollment	Per Pupil Sq ft	Allowable Cost/sq/ft	Maximum Allowable Grant	Average State Reimbursement
500	155	$183	$14,182,500	$9,785,925
501	155	$183	$14,210,865	$9,805,497
510	155	$183	$14,466,150	$9,981,644
550	155	$183	$15,600,750	$10,764,518

Maximum Grant Amount – Variable 2: Allowable Square Feet Per Pupil

The School Building Assistance regulations set forth an extensive series of classroom, library, cafeteria and other space requirements. Please see the SBA regulations, 603 CMR 38:00, for more information on room size requirements.

***Figure 49*: Actual Classroom Size Requirements**

Grade Level	Massachusetts	National[59]
Kindergarten	1200-1300 sq/ft.	900-1200 sq/ft.
Elementary	900-1000	650-900
Secondary	750-850	600-800

The space requirements are presented as ranges and school districts have some discretion over the final space constructed. However, the final square footage of the building must fit within the allowable square feet per pupil set by the department. See *Figure 50.*

***Figure 50:* Massachusetts Allowable Square Feet per Pupil**

School	Sq/ft per Pupil
Elementary School	115
Middle School/Jr. High School	135
High School	155
Vocational Technical School	225

The total allowable square feet per pupil is a standard determined and published by the department and is thought to be based on national standards, although program administrators are unsure of its origin.

The administrators of the SBA program make exceptions to this rule by granting waivers for such things as additional community space, or additional programmatic space that has been requested by the school committee.

Maximum Grant Amount – Variable 3: Maximum Allowable Cost Per Square Foot

The Department uses a maximum allowable cost per square foot to attempt to minimize the Commonwealth's financial exposure. The SBA administrators state that the maximum cost per square foot amounts also include an additional 20% for furnishings and equipment. The use of a maximum allowable cost per square foot assures, in theory, that the applicants will make reasonable materials and design choices, and provides the Commonwealth with one method of ensuring equitable funding decisions for a diverse group of projects.

Each year the DOE is required to review this cost factor and make any necessary adjustments based on actual project costs in the prior year. The SBA administrators have stated that they have no idea how the original cost ceiling numbers were set. Past cost increases were determined based on recommendations to the Department by architects and others involved with school construction projects. In FY00, however, the cost increase of 3% is based on information from the Construction Cost Index for the Boston construction industry. FY00 is the first year that the Department has used the Construction Cost Index to determine rate increases.

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[59] Council of Educational Facilities Planners 1999 Construction Report P.E7

Figure 51: **SBA Square Foot Rate Increase**

	FY99	FY00
Elementary School	$156/sq.ft.	$161/sq.ft.
Middle School/Jr. High School	$166	$171
High School	$177	$183
Vocational School	$189	$195

Unfortunately, the creation of a maximum reimbursable cost per square foot amount may defeat any benefits achieved through a low bid construction process. General contractors know the maximum reimbursable amount and so often take one of two courses of action: 1) all bidding contractors will come in near the maximum reimbursable project cost regardless of the actual cost of construction; or 2) a general contractor will submit a bid that is much lower than actually required and then, once construction has begun, submit numerous change orders to increase the project cost.

Figure 52: **Profile of New Schools Being Planned or Currently Underway**

NATIONAL MEDIANS	$/Sq. Ft.[60]	$/ Student	Sq. Ft./ Student	# Students	Bldg. Size (sq. ft.)	Bldg. Cost (000s)
Elementary	$97.69	$11,429	119.0	550	67,000	$6,5000
Middle	$93.49	$14,286	145.9	709	105,000	$9,500
High	$92.86	$16,872	184.8	762	140,000	$13,500
HIGH 10%						
Elementary	$153.10	$27,778	253.0	823	100,000	$12,000
Middle	$156.31	$28,571	247.6	1100	154,000	$17,700
High	$150.94	$32,316	332.3	1837	270,000	$30,000

Base: 445 Elementary schools; 205 Middle schools; 209 High schools

Source: *School Planning & Management Magazine,* Profile of New Schools; February 1998.

As can be seen in *Figure 52*, Massachusetts offers to pay more per square foot (for allowable costs) for school construction than the median of the most expensive 10% of schools built across the country actually cost.[61] Massachusetts will pay $3/sq/ft more for elementary schools, $10/sq/ft more for middle schools and $26/sq/ft more for high school construction than even the high 10% of schools in the nation.

Figure 53: **School Construction Cost – Massachusetts and the Nation**

Building Size Sq/ft	Cost for National Median	Cost for National Highest 10%	Maximum Allowable Reimbursable Amount in Massachusetts
Elementary School 100,000 sq/ft	$9,769,000	$15,310,000	$15,600,000
Middle School 154,000 sq/ft	$14,397,460	$24,071,740	$25,564,000
High School 270,000 sq/ft	$25,072,200	$40,753,800	$47,790,000

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[60] These dollar amounts do not include additional cost for furnishings and equipment as the Massachusetts allowable cost per square feet do.

[61] Massachusetts creates a cost ceiling which limits the maximum allowable reimbursable amount for school construction. Because the cost ceiling does not include "disallowable costs" such as land purchase or roadway work the actual total construction cost in Massachusetts can be even higher than the cost ceiling. Please see Section IV for more information on disallowable costs.

Figure 53 illustrates that this cost differential between the median cost per square foot of construction in the nation and the Massachusetts allowable reimbursable cost per square foot of construction can result in extremely large overall project cost increases. Using the example of a 270,000 square foot high school the difference between the Massachusetts building cost and the median building cost is almost $23 million.

If we consider that 20% of the allowable per square foot cost is added for furnishings and equipment the straight construction cost would be as follows:

***Figure 54*: Construction Cost Adjusted for F&E Reimbursement**

	FY00 Reimbursable Cost per sq/ft	Cost – 20% for F&E	National Median Cost per sq/ft
Elementary School	$161	$128.80	$97.69
Middle School/Jr. High	$171	$136.80	$93.49
High School	$183	$146.40	$92.86
Vocational School	$195	$156.00	

As can be seen in *Figure 54*, even if we subtract 20% from the from the Massachusetts allowable cost to account for furnishings and equipment allotments, Massachusetts pays $30 to $54 more per square foot than the median national cost for construction.[62] In addition, SBA administrators have stated that SBA funding is also used by districts to pay for computers and software – two costs that should not be covered by long-term capital financing. The fact that districts are able to find room in the reimbursable cost to cover computers and software further indicates that the reimbursable cost is higher than necessary for capital construction purposes.

Maximum Grant Amount – Variable 4: Reimbursement Rate

The final variable used to determine the maximum grant amount is the percentage reimbursement for which the applicant is eligible.

In 1948, a reimbursement formula was established that remained virtually unchanged until 1987.[63] This formula provided a base reimbursement rate that was then adjusted by a measure of a community's property wealth. Over the years, the base reimbursement rates were changed, minimum and maximum allowable reimbursement rates changed, and the definition of reimbursable costs changed as the circumstances of the Commonwealth changed. The formula was eliminated in 1987 when the rate for each city and town was placed in statute. These rates remain in effect today. Current rates have clear inequities and have long since become out-dated.

Original Formula

The original act created a formula that determines each municipality's or regional district's reimbursement rate. The formula for municipalities provided a base reimbursement rate of 25% of the project cost adjusted by a measure of the community's property wealth:[64]

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[62] If we assume that the national construction cost does not include design costs and that the SBA reimbursement amount is created to cover some design cost the gap between Massachusett's reimbursement rate per square foot and the national median cost per square foot remains. Under this scenario the gap is from $12 to $32 per square foot.

[63] From 1971 through 1974, the formula was deserted for a flat reimbursement amount for individual districts.

[64] Property wealth for these calculations is based on equalized valuations (EQVs). EQVs are a determination made biennially by the Commissioner of Revenue, of the full and fair cash value of all property in the Commonwealth as of a certain date.

Grant for district comprised of one city or town[65]

$$\boxed{.25(\text{APPROVED COST}) \times \frac{\text{COMMONWEALTH PER PUPIL EQV}}{\text{CITY PER PUPIL EQV}}}$$

For regional school districts, a higher base reimbursement rate was used providing incentive for individual districts to form regional districts. The same adjustment for property wealth was then applied:

Grant for regional district[66]

$$\boxed{.33(\text{APPROVED COST}) \times \frac{\text{COMMONWEALTH PER PUPIL EQV}}{\text{DISTRICT PER PUPIL EQV}}}$$

The grant rate was set between 20% and 50% of the total project cost for individual communities; while the grant rate was set between 25% and 55% for regional district projects. This formula was to be updated as new information became available, and re-run for each project proposed.

This original formula favored cities and towns with low property values and high numbers of children in the public schools. Cities and towns with high property wealth received less under the original formula than their property poor neighbors.

Changes to the Original Formula

Over the years the formula has been altered in many ways. Preferential reimbursement rates have been given to and taken away from high growth communities, regional schools, and depressed areas; interest expense has been added, reduced, eliminated, and finally added back to the definition of reimbursable costs; maximum and minimum reimbursement rates have increased over the years; and preferential rates were granted to projects designed to eliminate a racial imbalance. With the exception of the three-year period from 1971 to 1974, when the formula was eliminated for a flat reimbursement rate, the most consistent component of the SBA reimbursement formula has been the use of property wealth to adjust the reimbursement rate for a community's ability to contribute to the school project.

In 1987, the reimbursement formula was eliminated and the reimbursement percentages still in use today were placed into statute. All incentives designed to encourage the creation of regional school districts and those enhancements provided for high growth communities were eliminated.

Current Reimbursement Rates

The rates set in statute in 1987 are said to be based on property wealth – as they have been through the years. No institutional knowledge exists today about the formula used to calculate the rates.

It is generally true that the reimbursement rates appear to be based, however loosely, on a community's ability to pay as measured by property wealth. If one compares a community's decile ranking for their reimbursement rates to their ranking for property wealth,[67] the two rankings are often close if not the same. The 35 communities with the highest property wealth (the tenth decile) match closely to the 35 communities with the lowest reimbursement rates, while those 35 with the lowest property wealth (the first decile) match closely to those 35 with the highest reimbursement rates. Comparison by decile is a crude review at best.

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[65] The approved cost in this formula did not include interest expense; interest costs became reimbursable in 1971.

[66] The original program offered reimbursement incentives to communities that formed regional school districts. The grant amount increased 8% from 25% of the approved construction cost to 33% of the approved construction cost for regional districts.

A thorough review of the SBA rates quickly reveals how tenuously the SBA rates relate to today's property values:

Figure 55: **SBA Rates Compared to Property Values**

City or Town	SBA Rate	Per Capita EQV (PCEQV)
Statewide Average	**68.5%**	**$66,768**
Beverly	64%	$67,796
Chelmsford	64%	$68,659
Stow	64%	$87,798
Sudbury	64%	$129,972
North Andover	63%	$91,706
Quincy	63%	$54,522
Southborough	63%	$133,077
Walpole	63%	$76,792
Winchester	63%	$120,051
Welfleet	61%	$282,097
Everett	60%	$62,301
Framingham*	60%	$65,600
Norwood	60%	$75,496

Note: Per capita EQVs are as of 1998.
* Framingham receives a 90% reimbursement rate because it has a voluntary racial desegregation plan.

If the SBA reimbursement rates reflected a municipality's ability to pay as measured by their per capita property wealth, we would expect that communities with the same or similar reimbursement rates would have the same or similar per capita property wealth. As the *figure* above illustrates, that is not the case with the SBA rates of many of our communities. For example, Sudbury with per capita property wealth of $129,972, has a reimbursement rate of 64% while Everett has significantly lower per capita property wealth ($62,301) and a lower SBA reimbursement rate (60%) than Sudbury Similarly, we would also expect that municipalities of equal per capita property wealth, would have the same SBA reimbursement rates. The following 3 *figure*s illustrate that communities with the same per capita property wealth often have reimbursement rates differing by 15 to 20 percentage points.

***Figure 56*:** **PCEQVs = 69% of Statewide Average**	**SBA Rate**
South Hadley	69%
Dracut	71%
Millbury	72%
Acushnet	79%
Taunton	83%
Huntington	85%

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[67] Property wealth as measured by 1998 EQVs per capita. The same comparison using 1988 per capita EQVs yields similar results.

Figure 57: **PCEQVs = 72% of Statewide Average**	**SBA Rate**
Harvard	61%
Randolph	66%
Montague	75%
Russell	76%
Palmer	77%
Monson	79%
Royalston	81%

Figure 58: **PCEQVs = 82% of Statewide Average**	**SBA Rate**
Quincy	63%
Medford	68%
West Brookfield	71%
Amesbury	75%
Uxbridge	76%
Norton	78%
Charlemont	78%
Savoy	82%

As *Figures 59* illustrates, there are considerable inconsistencies in SBA rates as property values far exceed the statewide average property values across the state.

Figure 59: **PCEQVs = More Than 200% of Statewide Average**	**SBA Rate**	**PCEQV As % of Statewide Average**
Rowe	50%	606%
Nantucket	50%	959%
Gosnold	50%	1454%
Mount Washington	51%	395%
Tolland	51%	480%
West Tisbury	52%	445%
Chilmark	52%	1767%
Weston	53%	324%
Tyringham	54%	324%
Dover	55%	280%
Stockbridge	56%	239%
Monterey	56%	311%
Orleans	56%	317%
Edgartown	56%	614%
Concord	57%	204%
Wellesley	57%	238%
Otis	57%	388%
Chatham	57%	391%
Wellfleet	57%	421%
Truro	57%	558%
Dennis	58%	235%
Mashpee	58%	239%
Oak Bluffs	58%	380%
Lexington	59%	204%

Becket	59%	220%
Egremont	59%	248%
Tisbury	59%	314%
Bolton	60%	200%
Carlisle	60%	210%
Sherborn	60%	234%
Manchester	60%	278%
Sandisfield	60%	280%
Provincetown	60%	291%
Alford	60%	343%
New Marlboro	61%	213%
Harwich	61%	234%
Gay Head	61%	1245%
Monroe	63%	261%
Eastham	63%	270%
Hancock	65%	215%

Some of these inconsistencies can be explained by the passage of more than ten years since the rates were enacted. As *Figure 60* illustrates, since 1996 alone property values have increased by more than 8.2%.

Figure 60: **Change in Property Values – 1996 to 1999**

Region	**Counties**	**Residential Property Values Percent Change**	**Commercial & Industrial Classes Percent Change**	**EQV Overall Percent Change**
Northeast	Essex, Middlesex, Suffolk	9.18%	13.51%	10.07%
Southeast	Bristol, Norfolk, Plymouth	7.27%	3.92%	6.83%
Cape	Barnstable, Dukes, Nantucket	11.41%	9.41%	11.39%
Central	Worcester	4.98%	7.23%	5.56%
West	Berkshire, Franklin, Hampden, Hampshire	1.61%	6.46%	2.53%
Totals		**7.77%**	**9.82%**	**8.20%**

Source: Department of Revenue Division of Local Services, *City and Town,* April/May 1999.

More than a decade has passed since the current reimbursement rates were placed in statute. In that time, almost 75% of the communities in Massachusetts have experienced a change in their property values of greater than +/- 10%; almost 60% have experienced changes greater than +/- 20%; and almost 40% have experienced changes of more than +/- 30% in their property values. Property values have under gone radical changes, dropping by as much as 45% in Lawrence and growing by as much as 140% in Monroe. The reimbursement rates have not changed to keep pace.

Rate inequities existing in 1987 have been aggravated by the changes in property values over the last decade. Careful comparison of the reimbursement rates and today's property wealth provides ample evidence that even if the rates were based on property wealth in 1987, the relationship is stretched beyond recognition.

Finally, there is virtually no flexibility in the SBA program. Municipalities receive reimbursement for new construction or building renovation only. Municipalities have no incentive to explore any other options such as tuitioning-out students or use of modular units.

Despite the statutory directive to ensure that grant decisions are in the best interest of the municipality and of the Commonwealth, the fact that the program provides reimbursement for construction alternatives only, effectively rules out consideration of other options. Municipalities are rewarded for maximizing the base against which the rate will be applied, not for thinking creatively about solutions.

B. Program Cost Driver – Department Discretion

The Department creates cost and space flexibility beyond the limits established by the maximum allowable grant formula by providing space and cost waivers.

For example, space waivers are routinely granted for additional community space if a district would like to build a larger auditorium to accommodate community use. Space waivers are also granted to approved programs within the school. For example, if a school district has a large drama program that has been approved by the school committee, the SBA administrators will approve additional space for the program.[68] This additional space is then figured into the allowable grant formula and funded, in part, by the state.

Waivers are also granted for some communities who cannot meet the program's acreage recommendations. For example, since many urban communities are unable to provide 10, 15, or 20 acre tracts of land for new school buildings and so receive waivers to use smaller parcels. Some rural communities have voiced anger that while urban communities are routinely granted this waiver, they are not and are often forced to move children out of schools in town centers to outlying farmland or other open space areas, increasing transportation costs and decreasing downtown activity.

Cost waivers are also granted for various reasons if a project comes in over the approved reimbursable cost. This cost overrun may occur due to excessive change orders, unforeseen circumstances such as unexpected site conditions, plan oversights or other reasons. For example, one project reviewed from Athol-Royalston is an example of a school project that exceeded its approved SBA cost. DOE approved an additional $1.5 million for road and excavation work that went above the approved cost, which was then reimbursed, in part, by the state.[69]

SBA administrators also use their discretion to suggest additions or deletions from proposed projects. In Milton for example, SBA staff suggested the addition of a $2 million field house to the town's plan.

The SBA administrators are unable to quantify the number or dollar amount of cost waivers granted, but agree that cost and space waivers are issued regularly.

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[68] This example is based on an actual example cited by the SBA staff.

[69] DOE has issued a notice to applicants that these types of waivers will not be granted unless unforeseen circumstances arise during construction. Waivers will not be granted for projects that come in over bid, which had been prior practice.

C. Program Cost Driver – Construction Process

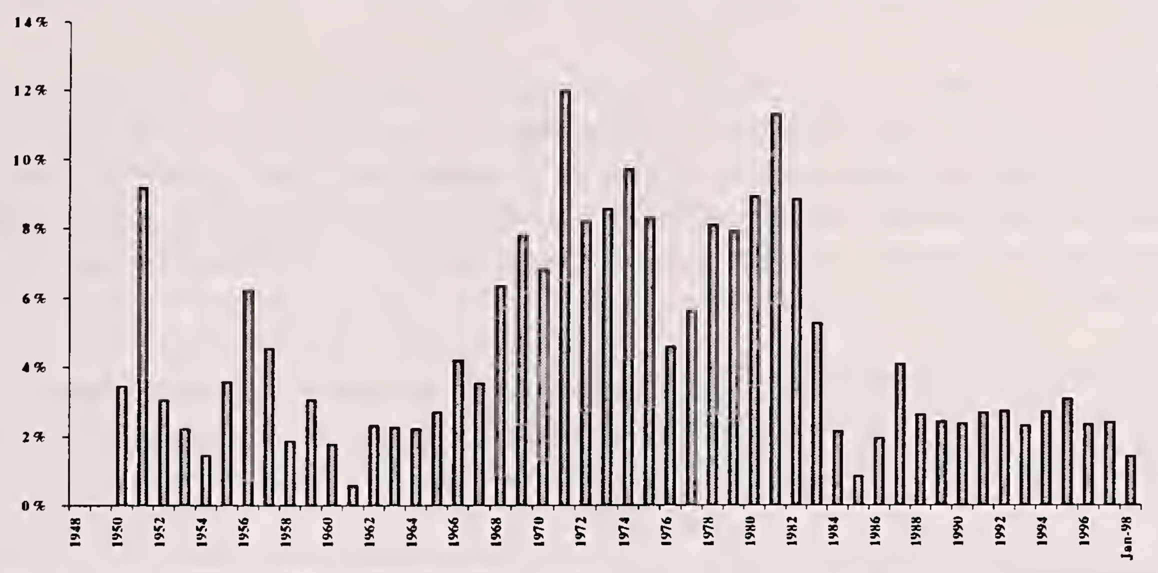

Figure 61: National Annual % Increase in Construction Cost

Construction Cost Increases

Based on national benchmarks, the cost of construction has increased 222% since the implementation of the SBA program in 1948, with an 86% increase from 1978 to 1998.[70]

In addition to these increases in construction costs nationally, construction in Massachusetts, due to the state's demographics and extreme seasonal changes, costs, on average, 8% more than the national average.[71]
Source: RS Means, 1998 Building Construction Cost Data

Further, Massachusetts construction law, as noted in the following section, adds significant costs to public construction projects in the Commonwealth.

Public Construction Law

A recent report issued by the Pioneer Institute verified what many state policy makers and construction industry professionals had been claiming for years – the Massachusetts construction procurement process adds additional costs and time to public construction in the state. The report noted two main cost drivers in this process. The first is the MGL Chapter 7 requirement to separately contract out for sub-contractors without allowing input from the general contractor. This requirement creates "an adversarial environment between the general contractor and the subcontractors, which leads to greater numbers of change orders and corresponding delays, which raise costs further."[72] The second cost driver noted is the MGL Chapter 149 requirement that projects must be separately bid for design and then for construction eliminating any economies of scale and adding time and expense through an extended and inefficient process.

The report also noted that Massachusetts uses its traditional construction process even if an alternative delivery method such as design/build would be more cost efficient.

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[70] RS Means, 1998 Building Construction Cost Data (Kingston: RS Means Company, Inc., 1997) p. 594.
[71] Ibid., p. 637
[72] D Gransberg, "The Cost of Inaction, Does Massachusetts Need Public Construction Reform?", Pioneer Institute for Public Policy Research, Boston, (1999) p. x.

The report stated, "Massachusetts project performance was consistently the worst of the four states studied. Projects in the Commonwealth showed all the indicators of a less efficient project management environment: high cost growth, extremely high time growth, and low construction placement."[73]

The study found that the total average project cost growth over the life of an individual project for Massachusetts was 11.27% versus 1.41% for Indiana, 9.99% for Florida and 3.68% for Texas.[74] In addition, the total average time growth, over the life of an individual project, for Massachusetts construction projects was 55.20% versus 6.00% for Indiana, 16.90% for Florida and 11.60% for Texas.[75] Further, the unit cost delivered for public schools that did not use the filed sub-bid method was one half the unit cost of those that did.[76]

The report estimates that legislative construction reform could save the Commonwealth $220 million annually of its $3 billion annual construction budget.[77] These savings could help stretch tax dollars and enable more construction projects to be undertaken in the state.

Municipal Inexperience/Change Orders

Municipalities often have limited technical expertise in managing a major construction project such as the construction of a new school building. In many towns, the amount of time that the building committee can spend overseeing a project is limited. This combination of municipal inexperience and time limitations can result in higher project costs, especially when change orders are produced by the contractor.

A change order is an amendment to the original construction contract. It may amend the type of material or equipment to be used, the services to be provided or the schedule of completion. A change order may or may not affect the cost and schedule of the project. The Division of Capital Asset Management and Maintenance reports that for state capital construction projects change orders usually result in an additional cost of 5% of the total project cost for new construction projects, and 10% of the total project cost for renovation projects. The Massachusetts School Committee Association reports, in their experience, that change order costs below 10% are excellent, but on average for school building projects change order costs are an additional 10-12% of the total project cost for both renovation and new construction projects. Change order costs may occur in renovation projects, in part because the general contractor estimates costs on design schematics. The contractor may run into obstacles not detailed in those blueprints, and additional costs result. Unfortunately, the DOE does not keep information about change orders so there is no source of data to help quantify or further analyze the impact of change orders on construction costs.

Architects we spoke with during this review indicated that they aim to ensure that change orders only account for 1 ½% to 2% of the total project cost for new construction projects and below 5% for renovation projects. These architects suggested that change order costs higher than this amount reflect poorly on the architect's ability and on the adequacy of the study completed prior to construction. Further, the architects suggested that the most costly change orders are a result of an inadequate subsurface exploration conducted by the municipality. While the cost of this type of exploration is $10,000 to $20,000, it is difficult for an architect to force a community to conduct one.

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[73] Ibid., p. 17.
[74] Ibid., p. 13.
[75] Ibid., p. 13.
[76] Ibid., p. 17.
[77] Ibid., p. x.

Some municipalities have hired construction or project managers to oversee school construction projects. These managers can help prevent and analyze change orders. Construction/project managers are an allowable cost under the SBA reimbursement guidelines, although there is anecdotal evidence that SBA administrators may have discouraged their use in the past.[78]

Construction/project managers generally cost between 1 ½% and 3% of the total project cost. The manager's fee is generally negotiated within this range and then set firmly at that amount. Because the construction/project manager's job is to keep project cost as low as possible and to keep the project on schedule, changes in project costs generally do not affect the fee. Managers for smaller, less costly projects fall at the higher end of the cost range and managers for larger, more expensive projects are less expensive.

Figure 62: **Renovation Misconceptions**
Historic Massachusetts has found that communities need more education on their ability to renovate schools through the SBA program. The following common local beliefs about renovation projects were gathered by Historic Massachusetts, based on information provided by DOE and case studies.

1) The state will not reimburse communities for renovation projects.
2) Renovation is always more expensive than new construction.
3) Old school buildings cannot provide the best space for children.
4) "Wood frame" construction is not eligible for reimbursement.
5) All classrooms must be 1,000 square feet in size.
6) Not enough land is available to satisfy site requirement.
7) "Moth balled" buildings cannot be restored as future facilities.

None of these common beliefs are supported by statutory prohibitions or with credible evidence.

General Contractors
In addition to the public construction law cost drivers noted above, Massachusetts law requires a low bid process by which the general contractor who bids the lowest amount for a project is awarded the contract regardless of poor past performance or contractor inexperience. This can contribute to a higher number of change orders. Municipalities must choose bidders that are pre-qualified by the Division of Capital Asset Management and Maintenance, however, fewer than 5% of all applicants are rejected from DCAMM's pre-qualified list which suggests that the minimum qualifications threshold contractors must meet is low.

As a step to improve DCAMM's pre-qualified general contractor list, municipalities and other hiring entities are asked to submit contractor evaluation forms to DCAMM at the completion of a construction project. Often these forms are not submitted, or they are completed so as not to jeopardize the contractors' rating regardless of actual performance. During the course of this review we were told by several groups that it is common practice for contractors to hold up the completion of a school building in exchange for a favorable review.

This year the SBA regulations 603 CMR 38.12 were amended by adding the following new paragraphs:

> (10) Each grant recipient shall submit to the Division of Capital Asset Management within 90 days after the completion of the general contract a contractor evaluation form for the

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[78] In addition, the Construction Reform legislation filed in April 1999, by the Cellucci-Swift Administration allows the Division of Capital Assent Management and Maintenance to retain project managers on staff who can then be contracted out to municipalities to provide additional construction assistance.

project general contractor. A copy of the evaluation form shall be included in the audit materialssubmitted pursuant to paragraph (3) (b)

Architect Fees

School buildings across the state that are from the same era tend to look remarkably similar and yet architect fees are 5-8% of the total construction cost regardless of similarity in design.[79] The Center for Education Facilities, International estimates that the 5-8% architect fee is fairly standard nationally and the Designer Selection Board sets standard design fees in this range for school building costs as well.[80,81] On a $20 million project an architect would be paid $1 million to $1.6 million in fees.

Despite this significant fee some municipalities have suggested that architects are not always able to give accurate estimates particularly for renovation projects. In 1996, the town of Winchester experienced some difficulties when faced with the question of renovation or new construction for the Lincoln Elementary School. The Facilities Commission released a statement claiming that the renovation of this building would cost $3.4 million more than building a new school. After careful consideration by other architects the renovation project was in fact determined to be less costly than the new construction project and is currently under construction.

In the course of our review, we have been told that the majority of architects hired to conduct the feasibility study are then also hired to design the project and administer the construction contract. The Commonwealth of Massachusetts Designer Selection Board publishes guidelines to assist state and local entities with understanding the provisions and intent of the State designer selection statutes. In an October 1, 1994 memo to cities and towns the Designer Selection Board answered the question, "Can the firm that completes the study also be employed to complete the design and administer the construction contract?"[82] The Board stated that the study designer should be "precluded from subsequent employment during the design development phase of the project".[83]

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[79] There is anecdotal evidence that some architects have reused school plans for more than one project and simply whited out the name of the earlier school project on the plans.

[80] The Designer Selection Board suggests designer fees for all building types by groupings. There are five groupings of buildings. Schools fall into Group II which consists of "projects of average complexity as for example: School and college classroom facilities, repetitive elements of correctional and detention facilities, dining halls (institutional), police and fire stations, gymnasiums, laundries and cleaning facilities, office buildings (for single occupancy), park, playgrounds and recreational facilities." Frank P. Orlando, Designer Section Board Memo to Cities and Towns, *Designer Selection Guidelines for a City or Town Building Project*, October 1, 1994.

[81] In addition to the architect's role as project designer, the architect often acts as the owner's representative to oversee the project. In those cases, part of the architect's fee covers the service.

[82] Frank P. Orlando, Designer Section Board Memo to Cities and Towns, *Designer Selection Guidelines for a City or Town Building Project*, October 1, 1994.

[83] The guidelines further state:

"One Basic premise developed in the designer selection statutes is that the study designer should be precluded from subsequent employment during the design development phase of the project. However, the statutes do provide municipalities with exceptions to this premise in the following circumstances:

a. Designers performing studies for repair work may be continued to provide design services, provided, first, that such work is limited to identifying and correcting existing deficiencies in a portion of a building or its equipment; and second, that the designer's fee for the combined study and design of repairs is not greater than one hundred thousand dollars.

b. Awarding authorities in cities and towns may allow a designer who conducted a feasibility study to continue with the design of a project if the authority commissions an independent review, by a knowledgeable and competent individual or business doing

In cases where the municipality wished to hire the same architect, the Designer Selection Board recommends the use of a peer review process to ensure that the best interest of the municipality are protected. The designer selection process at the local level warrants further review to ensure that the peer review process is used on a consistent basis.

For further information on construction law, please refer to the recent report of the Construction Reform Task Force. The Executive Office for Administration and Finance published *The Secretary's Initiative to Reform Construction Procurement and Management by Commonwealth Agencies* in May 1998. In addition, Governor Cellucci and Lieutenant Governor Swift filed construction reform legislation in April 1999 that addresses some of the concerns mentioned here.

D. Program Cost Driver – Program Regulations

The primary complaint of municipalities about the SBA program is that it often favors new construction over renovation. As a result, municipalities claim they choose not to propose a renovation project for reimbursement. While recent project approval numbers show that 73% of recently approved projects are renovation projects, it is true that several DOE regulations and practices create inherent favoritism for new construction. First, SBA staff requires that schools be situated on large plots of land; many existing school are not on plots of land large enough to meet these requirements. While SBA staff will waive this acreage requirement, many applicants are unaware of this programmatic flexibility. Second, SBA staff limits consideration of renovation projects to those that are projected to cost 50% or less of the comparable new construction project. Third, until 1997, SBA regulations stated that all SBA projects must meet the building code for new construction and until this month, the regulations on the DOE web site still stated this as well. Finally, SBA regulations contain large classroom size requirements that many older buildings cannot meet.

According to many cities and towns, these regulations discourage municipalities from submitting renovation projects which are often less costly in total than new construction projects. In addition, renovation projects might meet other policy objectives for cities and towns such as restoring a historic building, maintaining a school presence in a downtown location, or preserving parkland that would otherwise be needed for a new school.

Of the projects funded in FY99, FY00 and those on the waiting list, 27% are new construction. The remainder are addition/renovation projects. However, of the 58 projects receiving first payment in FY1999, 24 were new construction and 34 were renovations.

***Figure 63*: Cost Comparisons: New Construction, Additions, and Renovations**

	Number of Projects Reviewed	Average** Project Cost	Cost per Square Foot*	Total Appropriated	Total Square Feet
New Construction	7	$ 16,808,925	$ 141.81	$ 117,662,475	518,824
Addition/Renovation Combined	15	$ 9,565,415	$ 112.02	$ 140,436,413	1,057,111
New Addition	n/a	n/a	*$ 120.83*		*414,383*
Renovation	n/a	n/a	*$ 67.76*		*642,728*

*Interest costs not included

** Includes interest costs

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such work, of the feasibility designer's work to insure its reasonableness and its adequacy prior to allowing the designer to continue into the design development phase of the project. The review of a State agency with oversight or approval of a project may be sufficient for the purposes of this paragraph."

Detailed data was obtained on 22 SBA projects from 1989 and 1990, with completed final audits. As shown in the *figure* above, of the 22 projects seven were new construction and 15 were addition/renovation projects. However, within the addition/renovation projects, what engineers consider new construction made up almost half of the square footage of the projects. The attendant renovation on the existing building was required by DOE in order for the addition project to receive approval.[84] In reality, while only 7 of the 22 projects were new stand-alone buildings, two thirds of the square footage of the 22 projects was actually new construction.

Further, the cost per square foot of the seven stand-alone new construction projects was $141 per square foot, while the addition/renovations averaged $112 per square foot. The state will spend $118 million for the 7 new construction projects and $140 million for double the number of additions/renovations.

FY99, FY00 and Waiting list Project Analysis

There are currently 251 approved projects that will receive first payments in FY99 and beyond. The state cost of these projects breaks out as follows:

Figure 64: **FY99, FY00 and Waiting List Project Analysis**

	Number of Projects	Total Project Costs	Average Annual State Payment
Renovations	184 projects (74%)	$2.2 B (63%)	$584 K
New Construction	67 projects (26%)	$1.2 B (37%)	$960 K

Old school facilities can be restored, and re-opened. As far as size, classrooms in old buildings measure 750-850 square feet, which is large enough to accommodate smaller class sizes of 20-30 students. Today, education policy promotes smaller class size.[85] In fact, many of the early public school buildings from the turn of the century are still in use today. During the past several years some of these buildings have been remodeled or renovated and remain in the current school building stock. Examples of these renovations can be found in Chelsea, Salem and Milford. See *Figure 66* for more information on these projects.

Data obtained on 22 SBA projects from 1989 and 1990 show that new construction projects are significantly more expensive than renovation projects.

50% Rule

The SBA program administrators use a cost comparison rule of thumb for renovation projects. If a renovation project will cost 50% or more of the cost of a new construction project the administrators will encourage the community to build the new construction project. The DOE is not sure how the 50% rule was established. It is not hard and fast, although SBA staff did state that renovation projects that cost over a maximum of 75% of the cost to newly construct a comparable facility will not be accepted. This maximum is established because staff feels that once the project is started many unforeseen costs will arise due to the age of the building resulting in a final cost that exceeds the cost of a new building. This assertion is contradicted by the Division of Capital Asset Maintenance and Management and the Massachusetts School

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[84] DOE requires that an entire building be brought up to code if an applicant wishes to put an addition on it.

[85] Illig, David C., Ph. D. Reducing Class Size: A Review of the Literature and Options for Consideration. June 11, 1996. And Delaware State Education Association. Class Size Reduction and Student Achievement.

Committee Associations, both of whom estimate average renovation cost overruns at 10-12% of total project cost; and by architects who estimated acceptable change order costs at 5% or below for renovation projects.

When the Division of Capital Asset Management and Maintenance conducts a feasibility study before renovating or constructing a building, replacement of the building is considered a last resort. The study analysis is two-pronged. It consists of a cost analysis and a space/usefulness analysis. During the cost analysis phase a renovation is deemed appropriate in almost any case in which it costs less than building a new building, and in some cases, even when it costs more than constructing a new building. The new construction cost analysis must consider demolition costs for the original building, or the cost of maintaining two buildings instead of only one if the original building is to be maintained. The space/usefulness analysis makes a determination of whether the space in the original building is adequate and will suit the intended purpose if renovated. If renovating the existing building successfully meets these criteria, DCAMM will opt to renovate the building. No cost rule of thumb is used, however, when total costs are compared, in most cases the cost to renovate an existing building is less than the cost to construct a new building.

The second problem with the SBA 50% rule is that the renovation and new construction cost comparisons are not apples-to-apples comparisons. This prevents a true cost analysis by state and local government and arbitrarily eliminates sound renovation projects. Many additional new construction costs are not considered when calculating the comparison. For example items such as land acquisition, land replacement or roadwork are not calculated into the total new construction cost. If these costs were considered when comparing a renovation project and a new construction project, more renovation projects would be likely to meet the 50% rule.

The 50% rule appears to be especially confusing to applicants. Of the nine applications we reviewed, several were developed under the misconception that the 50% rule meant that the Department would only count half of the cost of a renovated building as the maximum allowable grant amount.[86] One public school feasibility study prepared by an architecture and interior design firm included the following new construction and renovation cost estimates that assumed the maximum grant amount for a renovation project to be half of that for a new building.

Figure 65: **Erroneous Cost Estimate**

	Allowable Cost per Sq. Ft.	Gross/Renovated Sq. Ft.	Maximum Allowable Grant
New Construction	$153.00	49,000	$7,497,000
Renovation	$76.50	26,000	$1,989,000

In this case, the Department's 50% rule was interpreted to mean that the Department would provide 50% reimbursement for renovation projects regardless of the district's actual reimbursement rate. In actuality, both renovation and new construction projects are reimbursed equally by the municipality's statutory reimbursement rate, based on the maximum allowable reimbursable amount as discussed in Section IV.

Building Codes

Approximately two years ago (96-97) a new 6th edition was added to the building code. This edition increased the specifications on school renovations to ensure that wood frame buildings with brick veneer were strengthened prior to reopening of the school. Before this regulation was in place, SBA staff commonly told applicants that they would not approve renovations of wood frame buildings because they were not confident that the project could withstand an earthquake, and therefore would not have a useful of life of at least 50 years. Since the change in the regulations DOE will approve wood frame building renovation projects if they are suitably reinforced.

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[86] DOE reports that at one time the SBA administrators would absolutely not approve renovation projects that cost more than 50% of a new construction project, despite apparent lack of regulatory authority to do so.

It is important to note that in October 1997 the Commissioner of Education released a notice to Superintendents, School Committees, Municipal Officials, Architects, Civil Engineers, General Contractors, Building Inspectors, and other interested parties regarding regulations on school construction to clarify the wording of the SBA building code requirements for repair and renovation projects. (See Appendix L). At the time, the SBA regulations stated that all SBA projects had to meet state building code regulations for new construction. The state building code, however, did not require renovation projects to meet new construction regulations, but laid out different regulations for renovation projects. The SBA administrators had been requiring tougher standards for renovation projects than were required by state building code. Despite the issuance of the October 1997 memo clarifying that renovation projects did not have to meet new construction codes, the DOE regulations on the website were never changed and remain as follows on the DOE website:[87]

Figure 66: **Renovation of Turn of the Century Buildings**

Several turn of the century school buildings have been renovated in recent years for continued use as education facilities. For example, Chelsea owns a school building that was built in 1909 with an addition built in 1912. This building was still in use until 1994,5 when the state passed special school building legislation for it that resulted in a renovation in 1996-1997.

Similarly, the Saltonstall School in Salem was originally built as an elementary school in 1916 and converted to a middle school in the 1980s. As a result of an increase in student population, the school was converted back to an elementary school after its restoration and construction of a new addition in 1996.

In 1994-95 the Stacy Middle School in Milford was reconstructed and an addition was built. The original structure was made up of three buildings dating from 1900, 1913, and 1937. The building was renovated, modernized, and expanded. An abandoned adjacent building was then converted into an auditorium, music room, and cafeteria. A new concourse building was constructed between the two buildings, which houses additional classrooms, a gym, and a media center.

"**38.03: General Requirements: Capital Construction**"

> To assure that the Commonwealth's interests in funding public school construction are safeguarded and ensure maximum attention to the cost effects of program and design decisions and materials and systems selections, all capital construction projects for which school building assistance grants are sought must meet the following requirements:
>
> (1) All projects shall have an anticipated useful life of at least 50 years as a public school of the applicant school district.
>
> (2) The design specifications for all projects, including those for the expansion and renovation of an existing building, shall meet all current building code requirements for new construction."

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[87] Since review of this report the Department of Education has updated the regulations on the DOE website. The hard copy of the regulations was amended in June 1998 to reflect the change. The regulations now read, "The design specification for all projects, including those for the expansion and renovation of an existing building, shall meet the applicable building code requirements established by the Executive Office of Public Safety", 603 CMR 38.3(2). It should be noted that several municipal officials, architects and other constituents involved with the SBA program still believed that the higher, "new building" seismic standard was required for renovations.

There is a perception among architects and builders that DOE still requires renovation projects to meet new construction code. Further, builders and architects feel they must honor the tougher DOE regulation for liability reasons. In 1997, Walpole was designing and building a high school renovation project. The SBA requirement that reconstruction projects meet new building code standards would have cost the district an additional $8-$9 million to upgrade to new construction code standards rather than the $1 million it cost to meet renovation code standards. A full seismic upgrade would have raised the cost of the project from $22 million to $31 million – a 41% increase. Further, a study conducted of East Boston High School found that a full seismic upgrade as required by the SBA regulations would cost 2.19 times more ($2,980,000 versus $1,360,000) than a limited seismic upgrade as required by the state building code.[88]

Executive Order 385, Planning for Growth

The Commonwealth recognizes and strives to achieve several laudable and sometimes conflicting goals – the preservation of open space, urban revitalization, economic development, and infrastructure improvements. In April 1996, Governor Weld recognized the conflict between new construction and economic development, and open space and urban revitalization when he signed Executive Order 385, Planning for Growth. The executive order recognized the importance of these goals and requires all agencies, departments, boards, and other instrumentalities of the Commonwealth to evaluate the effects of their programs and regulations on these goals and to try to minimize any negative effect on them. Renovation and rehabilitation projects instead of new construction are to be undertaken whenever possible and unnecessary loss of environmental resources is to be minimized. Despite Executive Order 385, extremely limited action has been undertaken by the SBA administrators to achieve these goals.

Acreage Requirements

Between 1970 and 1990, the Massachusetts population increased by approximately 6%, while the amount of developed land increased by 36%, six times the rate of population growth.[89] This statistic makes clear the need for an open space retention and mitigation program in the Commonwealth.

Despite the clear need to be cognizant of open space retention in the Commonwealth, the SBA program administrators prefer that schools are built on large plots of land. This preference is based on the need for playing fields, parking spaces for teachers and students, and to allow room for future school expansion.

These acreage standards, which are noted in the SBA application, are not in the program regulations or statute. The SBA administrators believe that these standards were based on national norms. Several states with similar population density to Massachusetts recommend similar acreage for school buildings (see Appendix M).

Figure 67: **Acreage Recommendations**

Type of School	Acreage
Elementary	10 + 1 acre for each 100 seats
Middle	15 + 1 acre for each 100 seats
High	20 + 1 acre for each 100 seats

The only other state review of the use of open space for a school building proposal occurs when proposals are submitted for a Massachusetts Environmental Policy Act (MEPA) checklist review. To ensure appropriate review of possible environmental issues associated with any SBA project, each applicant must complete a Massachusetts Environmental Policy Act (MEPA) checklist.[90] The MEPA checklist asks the applicant to determine if their proposal surpasses the environmental impact thresholds established by the state in the following seven categories: land (including direct alteration of 25 or more acres, conversion of conservation, preservation or agricultural land); rare species; wetlands, waterways and tidelands; water; transportation; historical and archaeological resources; and areas of critical environmental concern. Should any project surpass one or more of these thresholds, the project requires the filing and public review of an Environmental Notification Form (ENF).

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[88] Lim Consultants, Inc., Seismic Compliance Study Report: Renovations to East Boston High School, March 28, 1997, p. 9.

[89] Massachusetts Executive Office of Environmental Affairs.

Following review of the ENF, the Secretary of Environmental Affairs has the discretion to require a more detailed Environmental Impact Report (EIR). Recently, the Secretary has been requiring an EIR for all school projects involving conversion of Article 97 parkland greater than one half acre. The scope of such an EIR typically involves an analysis of other siting alternatives, a plan to minimize site-specific impacts on parkland, and the creation of new parkland of equal or greater open space value to mitigate any Article 97 conversion. Please see Appendix N for more information on recent open space land conversions.

Figure 68: **Open Space**
Currently, the state's school building assistance program, through large acreage requirements, encourages the use of open space for the construction of new schools

The town of Westborough, for example, owns a piece of open space totaling 120 acres known as the Andrews-Nourse site. This land provides 35% of the town's water supply. It offers opportunities for passive recreation and protects vital wildlife habitat. The Westborough Historical Commission identified the land as a potential archeological site, containing prehistoric artifacts dating back 8,000 years.

At Town Meeting, the Andrews-Nourse school site was approved by a slim margin - 461-440 for a new school. Many people who wanted the land preserved as open space voted against Andrews-Norse site, but later changed their vote, recognizing the need for a school.

Another example where the construction of a new building prevailed over preserving open space occurred in the town of Malden. The town decided to build an elementary school on the Newman Park despite opposition of residents and preservation groups. The school and parking lot are to occupy 2.8 acres of the 4.8 acre park. This park was designed by the renowned landscape architect Frederick Law Olmstead in 1909. It is one of the city's oldest parks and serves as the only open space for a neighborhood of 10,000 people. The park also served to alleviate flooding. The Superior Court, however, ruled in favor of the construction, stating that the city could lose state funding if the project was halted.

Unfortunately, MEPA review of SBA proposals occurs when the application is submitted to DOE for approval. At this stage of the SBA process, applicants often have already spent several years in the site selection and planning process. The project has picked up momentum and the most applicants will have little desire to address any MEPA concerns if those concerns mean any alteration in the proposal or delay in the schedule. Second, it is clear that many municipalities are not aware of the possible outcomes of the MEPA review or of the EOEA Article 97 Policy that is the basis for the MEPA decisions. During the initial development of the SBA proposal, local officials may not have focused on the need to minimize impacts on parkland or on the possibility that they might have to provide replacement open space as mitigation.

Urban Revitalization

The SBA program, by encouraging new construction instead of renovation, aids in flight from urban downtowns and diminishes efforts to encourage urban revitalization.

The recent renovation of the Lincoln school in Winchester is a good example of a renovation that will serve to keep the downtown area vital by promoting pedestrian travel in the area.

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[90] The SBA statute requires that all school proposals be reviewed for possible environmental impacts. The MEPA checklist is used to meet this need.

Displacement

Some school construction causes commercial or housing displacement. Frequently the large parcels of land required for school buildings forces a community to choose plots of land that are already occupied by businesses or individuals that then need to be moved from the location. If a project causes displacement there are some regulations, administered through the Department of Housing and Community Development (DHCD) that require the builder to assist in the relocation of the displaced parties. Several school projects have caused displacement in the last few years, including projects in Peabody, Springfield, Brockton, Lawrence, Lynn, and Shrewsbury. DHCD has limited access to information about displacement created by school construction, and often municipalities do not know about their relocation responsibilities until long after the process has been started and sometimes fully completed. There is currently no coordination between the School Building Assistance Program and the Department of Housing and Community Development to monitor this significant side effect of school construction.

Figure 69: **Article 97 Land Conversions**: Municipalities often have the Article 97 designation removed from land they wish to use for schools and other purposes by initiating a home rule petition. After the home rule petition is passed, municipalities must file local option bills with the state Legislature if they wish to transfer protected land to some other non-protective use. Over the last ten years, 178 of these bills have been filed. As can be seen below 16 of these transfers were to accommodate school construction. These petitions are almost always approved by the legislature.

Conservation Land, Park Land and Open Space Transfer Bills 1989-98

Year	Number of Transfer Bills Filed	Number for Schools
1998	20	4
1997	16	2
1996	24	3
1995	18	0
1994	20	1
1993	26	0
1992	13	1
1991	15	3
1990	17	0
1989	9	2
Total	**178**	**16**

Source: Representative Ruth Balser

Many pieces of Article 97 park and open space land have been used over the past several years as school building lots. There are examples of such use in Belchertown, Everett, Malden, Westfield, Chelsea, Somerville, Agawam, and Worcester to name a few. Many of these towns provided replacement acres to mitigate the lost open space. Please see Appendix N for a list of Environmental Affairs noted sites.

E. Program Cost Driver – Program Management

In May, 1998 an audit of the School Building Assistance program was released by State Auditor Joseph DeNucci.[91] It found that lack of enforcement of SBA regulations resulted in reimbursement overpayments to municipalities. These overpayments were realized and adjusted for after completion of the final audits, in the final years of reimbursement payments. In addition, the Auditor commented on the lack of incentive for municipalities to refinance debt resulted in higher interest costs for the Commonwealth during the life of the bond.

The report reviewed 370 school construction projects and found that 101 (28%) exceeded the 5-year deadline for the submission of final audit detailing final project costs. Final audits were between four months to seven years overdue. Without the final audit information DOE cannot adjust its estimated grant amounts to reflect actual costs, which in turn decreases available dollars for wait-listed projects. According to regulations, DOE has the authority to suspend payments until final costs are submitted. The audit acknowledged that DOE sent notification letters to the districts regarding the deadline, and stating the penalties for noncompliance. DOE, however, did not suspend grant payments for any of the reviewed projects. DOE stated that the suspension of payments creates hardships for many cities and towns. The Auditor's Report found no reason why municipalities cannot provide final cost information on time or request an extension due to litigation or other reasonable causes.

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[91] Commonwealth of Massachusetts State Auditor's Office, *State Auditor's Report on Certain Activities of the School Building Assistance Program at the Department of Education,* May 28, 1998.

The Auditor's Report also reviewed interest costs associated with construction projects approved by DOE. The findings conclude that the Commonwealth's share of interest costs is substantial. There are primarily two reasons why the state's share is so large. First, municipalities routinely overestimate interest costs. The report reviewed 19 of the 101 projects with late submission and found that 17 (89.5%) were funded for interest costs above those actually being incurred. The average interest rate projected by municipalities was 7.52%, whereas the actual rate paid was 6.6%. In fiscal year 1995, this difference amounted to $1,141,846 for these 19 projects, of which the Commonwealth paid $788,182. When this amount is extended to the population as a whole, it reflects an estimated overpayment of $15 million during FY95.

Figure 70: **Final Audits**

The Department of Education conducts a final audit after construction of the school building is complete. The audit is used to determine the final reimbursable project cost. SBA regulations (603 CMR 38.12) require the audit to be completed "within two years of the occupancy of new space, or in the year of the third payment, whichever occurs later". The State Auditor's report found that many of these audits occurred long after this deadline, resulting in Department overpayments to communities. The Department adjusts for any over or underpayments after the final audit is completed. Further, In 1998, the Department embarked on a two-year project to complete all overdue audits by the end of FY00.

The Department requests the following items for review during the final audit:

1. Copies of all votes of the municipality pertaining to the project;
2. Copies of all contracts, change orders, building specifications, and project purchase orders;
3. The actual project cost to the municipality and the method of financing;
4. Debt schedule;
5. Schedule of bills paid and copies of all vendor invoices; and
6. Copy of the school committee vote accepting the project.

The SBA office currently has one person on staff, a former public accountant, who conducts the final audits. This staff person reviews all information submitted and determines the final allowable project cost. Often over 400 invoices are submitted by the municipality for review for a single project. Currently there are 100 audits in the review queue awaiting approval. The audit queue will continue to grow with only one person reviewing information. Please see Appendix O for copies of the audit forms sent to municipalities and internal audit forms used by the Department.

Second, municipalities often do not refinance their bonds at lower interest rates after DOE's final audit. Of the 19 projects mentioned above, only four (20%) refinanced to a lower interest rate before DOE's final audit. Once the audit is approved, there is virtually no contact between DOE and the municipalities except for grant payments. The lack of contact gives municipalities no incentive to refinance at a lower rate. In an audit of 25 projects, refinancing had not occurred after DOE's final audit. If municipalities do decide to refinance, the lack of contact between DOE and the municipality after the final audit, gives municipalities an opportunity to refinance at lower rate, without adjustment of the grant by DOE, resulting in excessive grant payments.

Municipalities often fail to notify DOE when they refinance SBA debt, and the DOE does not adjust the reimbursement rate if municipalities do notify the department of refinancing until the entire SBA grant is reviewed in year 17 of reimbursement payments. A community often receives more reimbursement than it is entitled in the early or mid stages of reimbursement, thus tying up money that could be used to fund other projects. Municipalities are not encouraged or given incentive to refinance SBA debt. While refinancing of debt may produce only a small savings for a community, when aggregated it may be a large savings for the state.

The Department has recently adopted regulations to required municipalities to notify DOE if they refinance SBA debt. These regulations are a result of language included in the Governor's budget recommendation for FY99 that was adopted in the General Appropriations Act (final budget) requiring DOE to recalculate rates upon notification of a refinancing.[92]

In addition, DOE often makes reimbursement payments to municipalities in the first quarter, of the fiscal year even though the bond payments are not due until the 3rd or 4th quarter thus decreasing the interest gained by the Commonwealth on the reimbursement funds. DOE does not adjust for inflation when subtracting past overpayments from later reimbursements.

F. Program Cost Driver – Voluntary Racial Imbalance Plans

In 1965 (amended in 1974) the Massachusetts Racial Imbalance Law was enacted. This law allows districts to voluntarily declare themselves racially imbalanced if one school in the district has 51% or more minority students. Once a racial desegregation plan is approved by the Board of Education the district becomes eligible for 90% reimbursement for any SBA projects. Once approved, the racial desegregation plans are not reviewed again and districts continue to receive the 90% rate ad infinitum. See Appendix P for a list of communities with approved voluntary desegregation plans.

Racial Imbalance Law

The Massachusetts Racial Imbalance Law was originally enacted in 1965 (Chapter 641 of the Acts of 1965) and amended in 1974.[93] The law recognizes two forms of racial desegregation plans: court ordered plans and voluntary plans. The racial imbalance law defines a school whose enrollment is more than "50% non-white" as "racially imbalanced"[94] and requires the local school committee to plan and implement various measures to encourage and allow voluntary transfers of students that will eliminate this condition. The 1965 law gave authority to the Board of Education to approve voluntary racial balance plans for school districts. The Board approved plans for several schools in the 1960's and has approved a total of 21 plans for 21 districts to date.

Monetary Assistance for Racially Imbalanced Districts

The state provides financial assistance to districts with a racial imbalance. In addition to 90% reimbursement for school building projects, other assistance includes transportation reimbursement (authorized at 100%, although pro-rated at a lesser rate because it is subject to appropriation) and equal education improvement funds to strengthen educational programs. Funding is also authorized for magnet schools, magnet educational programs, and the METCO program, all of which can be used to eliminate or decrease racial imbalance.

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[92] Recent statutory (MGL C.44 s.21A (amended by Stat. 1998 C.194 s.114) and regulatory (603 CMR 38.12 (11)) changes require municipalities to notify the Department if they refinance after the final audit, and permit the Department to make an additional adjustment to the grant.

[93] The Massachusetts racial imbalance law had been codified in General Law. MGL Chapter 71, Section 37D and MGL Chapter 15, Section 1I contain the racial balance law in effect today. This law is much the same as the original 1965 law as revised in 1974.

[94] MGL Chapter 71, Section 37D

The racial imbalance law also sets forth racial imbalance plan requirements. These requirements list the options to decrease racial imbalance that are available to, but not required of, racially imbalanced school districts. The community may propose redistricting, construction, or cooperative arrangements with other communities as methods for eliminating the racial imbalance. The Commonwealth is required by MGL Ch. 15, Section 1I to reimburse racially imbalanced districts 90% for any method, including non-construction options, proposed to decrease the racial imbalance. For example, the Commonwealth can reimburse for redistricting costs or intra-district choice costs. To date, however, 90% reimbursement has been reserved solely for construction options.[95]

No Follow Up Review

Under the law, if the Board of Education finds that the school has not made sufficient desegregation progress the Board and DOE can withhold state aid.[96] However, according to DOE staff, once the Department and Board of Education have reviewed and approved a racial balance plan, the plan and the district are never subject to review. The Board has never stopped payments due to the failure of a racial imbalance plan to achieve its proposed end. Districts that have approved racial balance plans from the 1960's remain on the list for 90% reimbursement today without examination of the success of the racial balance plan.

In addition, districts with racial imbalance plans in place that submit projects for SBA funding are kept on a separate funding list. Each year this list has been funded in its entirety, creating additional incentive to submit a voluntary desegregation plan. If a district submits a desegregation project for reimbursement it is almost guaranteed to receive funding in the following year instead of waiting several years on the SBA category 2[97] project waiting list.

Lack of both initial and follow-up review of the racial balance plans by the Department and the Board undermines the intent of the original bill. The 90% reimbursement rate and quick funding paired with lack of review creates an environment where misuse of the program can flourish.

Additionally, the current 90% reimbursement rate trigger of 51% minority enrollment in a single school district is fundamentally flawed. For example, should a city or town with a district-wide minority enrollment of greater than 51% be eligible for the 90% reimbursement rate? Municipalities with district-wide minority enrollment of greater than 51% cannot bring a single school in their district below 51% minority enrollment without increasing the minority population at another school. As the law is currently written, these districts cannot desegregate their schools without attracting Caucasian students from outside of the district. They could however, ensure that no single school within their district has a higher minority enrollment than any other of their schools –they can desegregate relative to their own district enrollment profile but they cannot desegregate relative to the 51% threshold.

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[95] Section 4, Chapter 515 of the Acts of 1983 allowed for additional reimbursement for racial desegregation projects. The amount of additional reimbursement allowed over the statutory grant amount for a municipality was determined by the Board of Education. Any reimbursement amount greater than 75% required the approval of the House and Senate Ways and Means Committees. This provision was amended by Section 2, subsection 12b of Chapter 746 of the Acts of 1987, in which all racial desegregation projects are granted 90% reimbursement with only the approval of the Board of Education.

[96] MGL Chapter 15, Section 11

[97] The Department breaks SBA projects into three categories. Category 1 is racial desegregation projects, category 2 is other construction and renovation projects and category 3 is major reconstruction projects.

Recently Approved Racial Balance Plans

The Board of Education has approved three desegregation plans since 1996.

Framingham	1996
Malden	1996
Fitchburg	1997

Each of these plans consisted of new construction or renovations that appear to have been necessary regardless of the racial imbalance factor. The presentations to the Board did not contain analysis of the options, such as why new construction would be the best and only solution to the racial imbalance, or of alternative options to building construction. Further, in the Framingham study, (the only full study available), there is little or no analysis on how the proposed options will elicit the proposed results. There is no information or study on how the construction of a new school will create racial balance in the district.

Figure 71 : **SBA Expenditures: Desegregation Projects Compared to Other Projects**[98]

	Average Annual Payment of all Projects	Average Annual Payment of Non-desegregation Projects	Average Annual Payment of Desegregation Projects
FY99	$577K	$472K	$1M
FY00	$759K	$662K	$1.5M
FY01+	$779K	$751K	$1.2M

Commonwealth payments for desegregation projects are more costly than other SBA projects for two reasons. First, the reimbursement rate is higher for desegregation projects than for other projects (90% versus an average of 69%). Second, desegregation projects are more often new construction and have a higher total construction cost than other SBA projects. Racial desegregation projects average $27 million in total cost compared to an average cost of $20 million for other SBA projects. In FY99, FY00 and on the waiting list, 27% of all SBA projects have been new construction projects. As can be seen in *Figure 72*, an average of 48% of desegregation projects, funded from FY99 through the current waiting list, are new construction. In FY00, 71% are new construction.

Figure 72 : **Percentage of Desegregation Projects that are New Construction**

	Number of Desegregation Projects	New Construction	Percentage of New Construction vs. Renovation
FY99	10	5	50%
FY00	7	5	71%
FY01+	8	2	25%
Total	**25**	**12**	**48%**

A review of the 14 districts that have constructed 11 or more SBA projects since 1971 (including waiting list projects) determined that 11 of the communities had approved voluntary racial desegregation plans in place and received or will receive 90% reimbursement for these projects. Only two of these 11 municipalities are predicted to experience any enrollment growth in the next 10 years according to MISER, and in those two communities growth is predicted to be small.

These 11 communities (which represent 19.56% of the state's public school enrollment, 3% of the municipalities in the Commonwealth) have constructed 356 or 33% of 1,092 SBA projects during this time period – these communities, have constructed 33% of all the SBA projects undertaken since 1971. Please see Section II for more information on the location of SBA projects constructed from 1971-99.

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[98] These *figures* represent the annual state payment, not the total annual payment.

G. Program Cost Drivers – Conclusions

When the major factors that determine the cost of the SBA program to state and local governments reviewed, it was determined that:

- In general, the Department does not question enrollment projections unless they appear unreasonable based on staff knowledge of the area, nor does SBA staff compare the projections to any established benchmarks. For a typical high school, adding one pupil to the enrollment projection adds $28,365 (155 sq/ft/pupil x $183/sq/ft) to the maximum grant amount. Fifty additional students would add almost $1.5 million to the maximum grant.

- Massachusetts pays more per square foot for school construction than the median cost per square foot of the most expensive 10% of schools built across the country. Massachusetts pays $3/sq/ft more for elementary schools, $10/sq/ft more for middle schools and $26/sq/ft more for high school construction than even the most costly 10% of schools constructed in the nation. Using the example of a 270,000 square foot high school, Massachusetts would offer to pay $7 million more than the median cost of the most expensive 10% of school projects surveyed, and more than $22 million more than the national median building cost.

- The current reimbursement rates have not been updated in ten years. While these rates may have originally been adjusted to reflect a community's ability to pay as measured by their property wealth, changes in property values over the last decade have erased any relationship that might have existed. Since 1996 property values have increased by more than 8.2%. Since 1988, almost 75% of the communities in Massachusetts have experienced a change in their property values of greater than +/- 10%; almost 60% have experienced changes greater than +/- 20%; and almost 40% have experienced changes of more than +/- 30%.

- Despite the statutory directive to ensure that grant decisions are in the best interest of the municipality and the Commonwealth, the fact that the program provides reimbursement for construction alternatives only, effectively rules out consideration of other options. Municipalities are rewarded for maximizing the base against which the rate will be applied, not for thinking creatively about solutions.

- During the school building construction process, there is an opportunity for costs to rise due to: failure to use experienced project managers; the use of inadequately qualified contractors; a lack of peer review for designers; and the inefficiencies created by Massachusetts public construction law.

- There is an inherent bias in the SBA regulations and administration for new construction projects that may drive up program costs. These biases are evident in the use of the 50% rule; large site size requirements; the recently amended requirement that renovations meet building codes for new construction; and large classroom size requirements.

- There are opportunities for program administration to be strengthened. Significant statutory authority exists that is not being used by the Board.

- School building projects submitted under a racial balance plan are more likely to be new construction than are regular school building projects, and cost about $7 million more per project. The initial application process appears to lack rigor and once approved, there is no review at a later point to see if the plans are successful although the BOE is required to do so.

VIII. The School Building Assistance Program: 2000 and Beyond

Although public school enrollment growth is projected to remain level or perhaps decline over the next decade, demand for the SBA program will likely remain strong, as Massachusetts residents continue to demand better schools and the state's aging infrastructure needs further repair.

At present, the SBA waiting list is five years long with 126 projects waiting for state funds, and another 128 project submitted for review. Of those 128 projects, 75 will be added to the waitlist this year and the remainder will likely be added next year. The Department estimates that over the next five years approximately 70 projects will be added to the list annually. At the current rate of funding in the FY00 budget (which requires a new state commitment of $44 million annually), the waiting list will grow by several projects a year. With today's demand for the SBA program, taxpayers cannot afford to have a single state or local dollar spent unwisely.

Not only is the demand for classroom space likely to continue apace, demand for a more flexible program will grow as well. Under the current SBA structure, municipalities are prevented from making the best programmatic and financial decision by a cookie cutter approach that will not allow creative solutions and does not recognize the competing objectives faced by our local governments. Given the current program structure municipalities now have but a single rational choice – build a new building – even when this is not the alternative they would chose were they free to design their own solution. Should the program remain unchanged, it is very likely that communities will continue to make this choice. Addressing the wide variety of classroom space needs that face our school districts with a single, inflexible solution – and often the most expensive solution – will ensure that fewer schools are built.

The Commonwealth's commitment to the SBA program is unquestioned. But even the conservative assumption that the state does not fund any new projects beyond those in the Department's pipeline yields startling numbers: the Commonwealth could approach $8 billion in out-year obligations for the SBA program including both those currently receiving funding and those on the waiting list. A more likely scenario is that the waiting list will continue to grow and the state will continue to substantially increase its SBA appropriation consistent with the increase in recent years. Under such a scenario, the state's SBA obligations for approved projects and those on the waiting list will exceed the amount of principal the state owes on its general obligation debt by FY04. See *Figure 73.*[99]

Part of the reason for the expected growth of the waiting list is that few projects will be reaching the end of their 20-year payment schedule over the next several years. In Fiscal Year 2000 only 31 projects will be receiving their final payments. These final payments will free up $2.7 million for new project payments, enough for about 6 non-desegregation projects on the FY00 first payment list or one desegregation project. From FY99 to FY05 210 projects will reach the end of their payment schedules, freeing up only $25 million.

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[99] SBA obligations assume that 70 new projects will be added each year, increasing in cost at 5% annually. Commonwealth GO debt is the amount of outstanding principal and assumes the continuation of the $1 billion bond cap at 6% interest. Assuming the state appropriated as much new funding for SBA as it will in the fiscal 2000 budget ($44 million), by fiscal 2005 the state will have $8.7 billion in approved SBA out-year obligations and an additional $4.7 billion in approved projects on the waiting list.

Figure 73

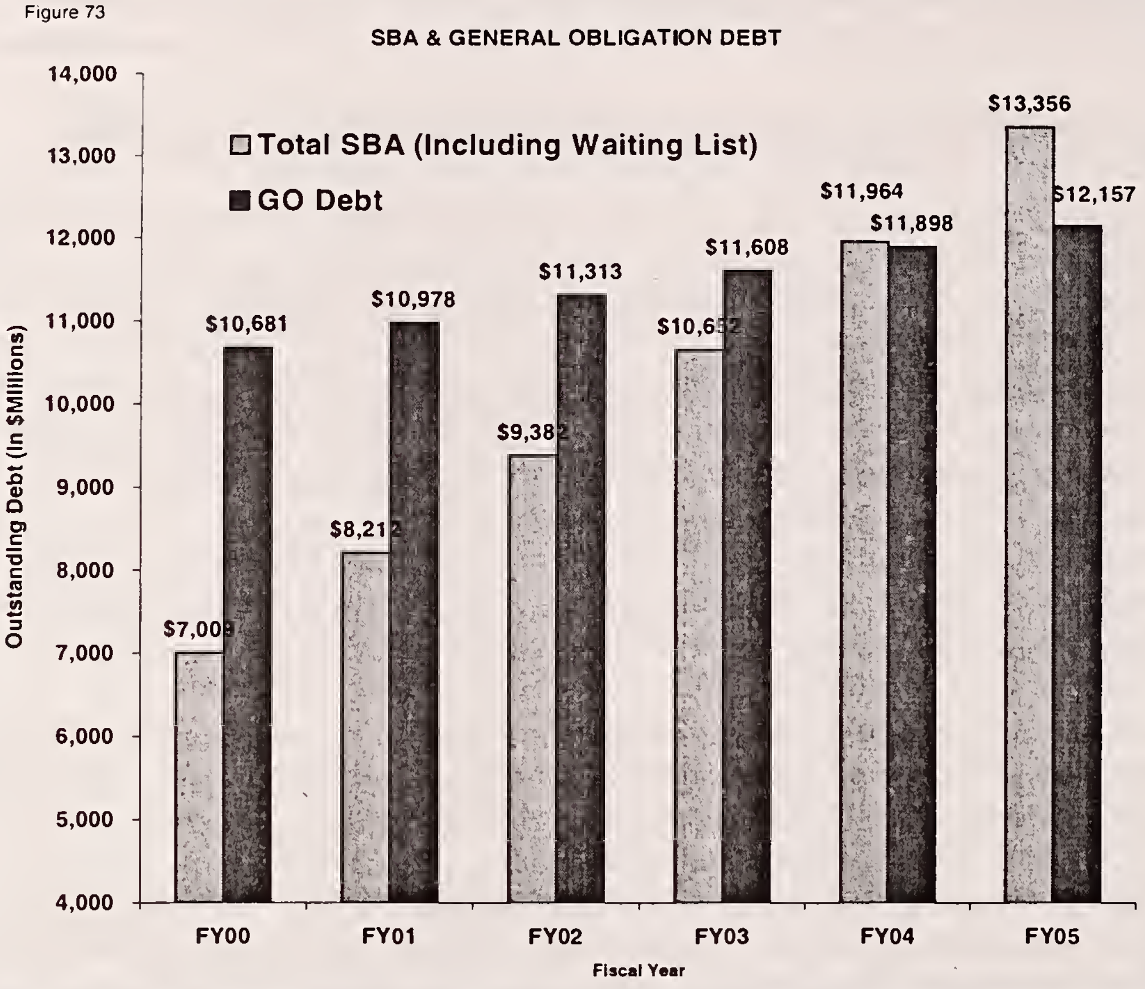


Figure 74: FY99-FY05 SBA Project Attrition

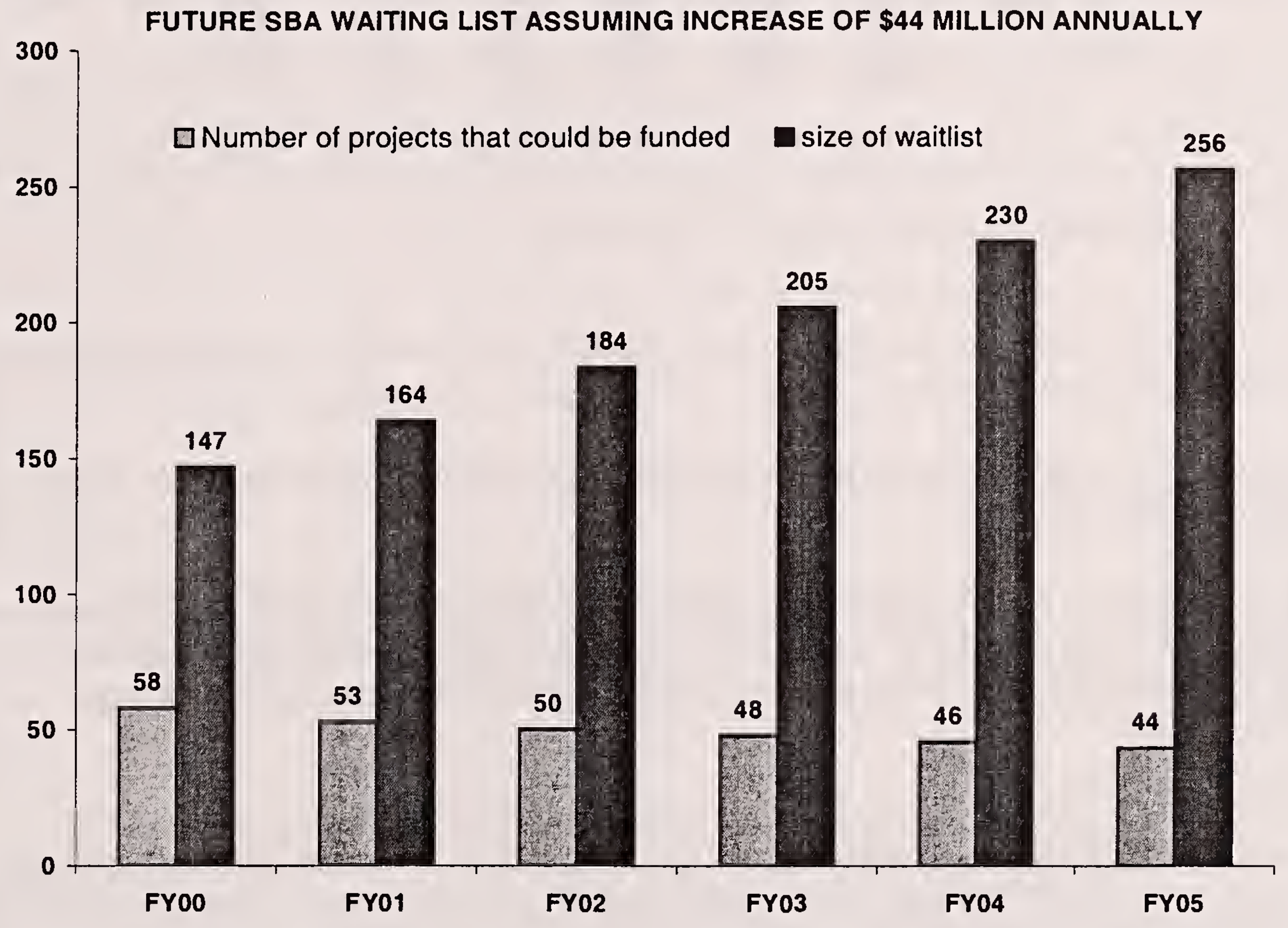
	Millions	# of Projects
FY99	$3.3	51
FY00	$2.7	31
FY01	$3.2	43
FY02	$1.9	22
FY03	$4.2	24
FY04	$4.8	24
FY05	$5.1	15
TOTAL	$25.2	210

Because of this, a $40 - $50 million annual increase in SBA appropriations will be necessary to maintain the current level of new projects funded each year. Even with a new commitment of $40 to $50 million annually, the waiting list will grow by several projects each year. The following chart illustrates the speed at which the waiting list is projected to grow if no changes are made to the program and an additional $44 million in new state funding is added each year.

Even with an annual increase of $44 million, we can expect the waiting list to grow by nearly 20 projects a year if the program is left unchanged. At its current funding level, the current rate of new applications and with the increasing cost of projects, the SBA program cannot keep up with the waiting list without significant changes. While the Commonwealth recognizes the importance of sharing the financial responsibility for its education infrastructure, it must also recognize that today's program was crafted 50 years ago and needs significant updating and modernization.

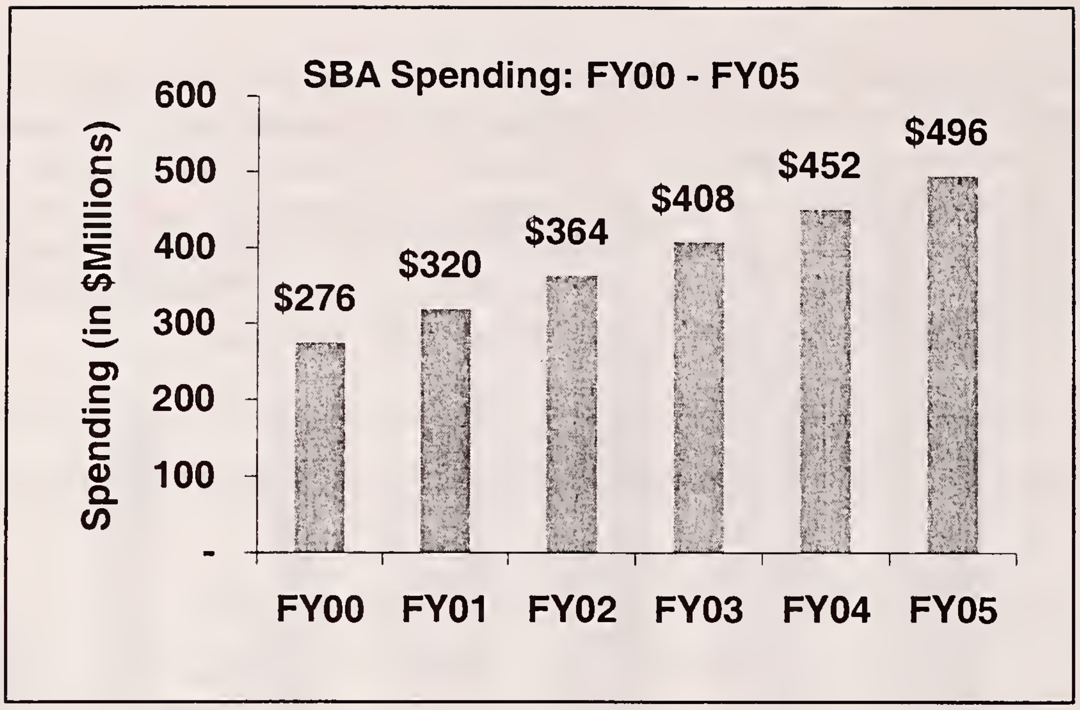
The usual solution offered by many of the beneficiaries of the program is to simply sink more money into school building construction. Some have even suggested that the Commonwealth has historically failed to meet its obligation to this program. Unfortunately, this simple solution is nothing more than a short-term elixir. As is illustrated in the chart below, increasing the annual appropriation by the same amount as in fiscal 2000 ($44 million) will increase program spending to more than $400 million by FY2003, rivaling the MBTA, prior to forward funding, for state support. Even at this funding level, the waiting list will grow each year.

Figure 75



The SBA program looms ominously as a new budget buster in the near future. In the late 1980's the "budget busters" were defined by their explosive, in many cases uncontrollable growth, and by the spending associated with them, which was considered non-discretionary. The SBA program fits into this category because unlike almost any other state program (with the exception of debt service and pensions), the SBA program commits the state to multi-year obligations, typically over twenty years.

Figure 76



The underlying inefficiencies of the program must be addressed if we wish to sustain a viable school building assistance program.

The program as it is currently configured has five major flaws, which a real solution to this impending crisis must address:

1. The SBA program is a multi-discipline program administered by a single-discipline agency. The SBA program is not simply an education program. It is the largest construction and finance program for both the state and local municipalities. It is also a major municipal planning program.

2. The all-or-nothing funding approach of the current SBA program structure does not allow innovative programmatic and financing solutions for the many needs and pressures facing our municipalities. Because the only school projects eligible for state reimbursement of any kind are major renovations and new construction, the rational approach for a municipality is to submit such a project even if another solution such as a less extensive renovation would meet its classroom need.

3. The SBA program, as it currently operates, does not encourage ongoing building maintenance. Because of this, the state's school building infrastructure is in poor condition and costly new school construction is often the most economical alternative for municipalities.

4. The statutory reimbursement rates are out-dated and inequitable; and aspects of the program's financing structure are highly inefficient.

5. The current racial desegregation program provides an enormous incentive to build new schools (90% reimbursement rate). The BOE accepts local assertion that building a new school will end racial segregation in the district and applies no rigor to the application review. Once given a 90% reimbursement rate, no school district has ever been asked to prove the success of its voluntary racial desegregation plan or had the 90% reimbursement rate removed.

Projecting the future of today's program is simple – without a thoughtful phased-in solution today, tomorrow will bring dramatic change made in an atmosphere of crisis.

IX. Recommendations

The previous section identified five major problems with the current SBA program. This section offers recommendations to address these problems. This section will present a series of recommendations designed to address each of these problems thereby allowing more projects to advance each year while controlling costs and increasing flexibility for local municipalities.

Problem: The apparent instability of the SBA program causes municipalities to submit large numbers of applications during "sunset" periods – times when the program is coming up for reauthorization – fearful that the program will change or not receive reauthorization. The size of the waiting list is exacerbated by the continual need for program reauthorization every three to five years.

Address Sunset Rush

1. Make SBA program permanent by enacting it as general law.

The SBA program has never been made a permanent program, although it has been re-authorized for 50 years.

Problem: The SBA program is a multi-disciplinary program administered by a single-discipline agency. The SBA program is not simply an education program. It is the largest construction and finance program for the state and its local governments. It is also a major municipal planning program.

2. Create a new School Facilities Commission such as exists in **Ohio, Maryland, and California** and expand the staff to mirror the make-up of the new Commission.

The Board of Education will be replaced as the project approval entity for school building assistance (SBA) projects with a new School Facilities Commission, similar to the original board structure established for the SBA program in 1948 and eliminated in 1965. This Commission will consist of 6 ex officio members including the Secretary of Administration and Finance (A&F) who shall chair the commission; the Commissioner of the Division of Capital Asset Management and Maintenance (DCAMM); the Commissioner of the Department of Education (DOE); the Deputy Commissioner of the Department of Revenue responsible for the Division of Local Services (DLS); the Commissioner of the Department of Food and Agriculture[100]; the Director of the Department of Housing and Community Development and a seventh member appointed by the Governor.

The Commission, bringing together expertise from a number of relevant areas, will be responsible for general oversight of the program as well as granting of awards and rewriting the current regulations. The Commission will appoint an Executive Director to operate the program. The Executive Director will be responsible for coordinating the program and support staff. Support staff from the following agencies will be dedicated to the new SBA program: DOE (4), DCAMM

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[100] Farmland is often an option considered by municipalities as a site for school construction. The Commissioner of Food and Agriculture will help to balance the need for school construction with the Commonwealth's and the municipalities' need to protect open space.

(2), DLS (1), and Environmental Affairs (1).[101] An additional 5 individuals will be added to supplement the existing support staff at the various agencies. The support staff will be charged with such responsibilities as reviewing applications, providing technical assistance to localities in developing applications and proposals, and providing technical expertise to the overall operation of the program.

This type of structure will allow for cross-departmental innovative project funding. For example, the Department of Housing and Community Development offers several types of grants which may be useful to municipalities undertaking school construction projects. Review by a staff person knowledgeable about DHCD grants could make the grant process more cost effective and efficient for all involved. Others areas for inter-agency staff collaboration could include library grants, teen pregnancy prevention grants, DARE grants and public health grants.

The projected operating budget of the new Commission and support staff is $720,000 including all payroll cost adjustments for the support staff at the various agencies. This amount includes the current program administration cost of $420,000 plus an additional $300,000 for the additional staff.

This change would:

- Emphasize that the SBA program is more than an education program and has numerous impacts on municipal and state government and citizenry;
- Provide added construction and architectural expertise to the project review and approval process;
- Provide added financing expertise to assist applicants with their financing strategies;
- Add an awareness of open space and municipal economic development issues to the approval process;
- Facilitate cross-agency grant making; and
- Provide needed staff resources for this program.

See Appendix R for more information on school construction in other states.

Use New School Facilities Commission to Instill Multi-discipline Approach in SBA Regulations

3. Direct the new School Facilities Commission to rewrite the existing program regulations to eliminate bias towards new construction.

As one of its first orders of business the new Commission shall review all regulations including the applicable Massachusetts and federal building codes to determine that the state's need for safe schools are being met and that the current codes and regulations are necessary and not superfluous or burdensome. At a minimum, the 50% renovation rule should be eliminated.

Each project request should be reviewed by the staff and Commission on a case by case basis. If the new Commission wishes to develop threshold cost recommendations for construction review they may do so but these thresholds should be viewed as purely in-house recommendations and projects must still be reviewed on a case by case basis.

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[101] These staff members can be dedicated on a rotating basis – for 6 or 12 month sabbaticals from their traditional jobs. When employed by the Facilities Commission their salaries will be paid out of the commission' s budget and they will report to the Executive Director.

Review of projects should consider all costs associated with a project, not just those reimbursable through the SBA program, to ensure that the most appropriate solution is being proposed.

4. Require that schools seeking to take open space for a new school prepare and submit with the SBA application a comprehensive open space plan for the community.

While creating incentives for projects that do not use open space (see recommendation 16) may mean that fewer proposals involving open space are submitted each year, applicants proposing the use of open space should be required to submit a comprehensive community-wide open space plan. This will ensure a thoughtful, inclusive approach to open space use and will support the Commonwealth's open space planning efforts.

5. Require the Commission to reexamine the acreage recommendations now used, and develop recommendations that consider all of the municipalities' and Commonwealth's needs.

These acreage recommendations should not be used as requirements and each project should be reviewed on a case by case basis with all factors considered.

6. Establish a "no net loss" of open space provision for access to SBA funding.

All projects that propose the use of open space for a school project should be required to replace the lost acreage with equivalent space. Equivalent space should not only mean comparable number of acres but also space of equal quality. The Commission should develop recommendations for districts that cannot meet the "no net loss" provision.

7. Establish a planning process and reporting requirement that municipalities must meet before a school that received state reimbursement is closed or mothballed.

8. Require that all projects proposing to move from a downtown school to a more remote location are reviewed by DHCD.

Applicants proposing such a plan would be required to submit an acceptable alternative use of the downtown location with their SBA application.

These changes would:

- Remove the artificial barriers that prevent municipalities from taking a comprehensive view of school building projects and municipal planning, when paired with the incentive-based reimbursement model recommended (see recommendation 16).

Use the Multi-Discipline Staff to Strengthen Construction Expertise

9. Direct the Commission to conduct a value-engineering review of design plans for all school construction projects. Conduct two reviews for projects over $10 million.

To ensure that appropriate design work and cost estimates have been made and that adequate cost controls are in place, the School Facilities Commission should engage a value-engineering review of the design plans. For projects estimated to cost less than $10 million, the review should occur at the conceptual design stage (the feasibility study stage). For projects estimated to cost more than $10 million, the review should occur at both the conceptual and schematic design stages.

10. The School Facilities Commission should provide training, education, and technical assistance to contractors, subcontractors, designers, municipalities, and others.

There is limited construction expertise in the SBA program at both the local and state level, creating an opportunity for inefficiencies. Currently, the Division of Capital Asset Management and Maintenance (DCAMM) receives many calls from municipalities seeking help in resolving problems with all types of construction projects. Many municipalities attempt to save money by managing construction projects themselves through a "clerk-of-the-works arrangement", but unfortunately in some cases, they lack adequate staff to successfully, and economically manage the project. Although construction/project management only comprises between 1½-3% of total construction cost, it can achieve substantial cost savings by minimizing change orders and help to ensure better, safer buildings.

The Construction Reform legislation recently filed by the Cellucci-Swift Administration gives an annual appropriation to the Office of the Inspector General for the development of training programs that allow state and local employees to improve skills and become construction professionals. Workshops focus on construction management techniques, such as partnering, facilitation, and problem resolution and state bidding procedures. The board should work with the Inspector General to expand this program or should offer training and technical assistance to municipalities through its own staff. *(Construction Reform Legislation: Section 1-2.)*

Make Quality a Consideration in the Contractor Selection Process

11. Seek legislation to employ a quality and price-based process for the selection of general contractors for projects.

Under current construction procurement laws there is limited opportunity to ensure that the contractor chosen for a project has the expertise to complete the project successfully. There should be flexibility to select the most qualified bidder, not just the lowest bidder during the contractor selection process. (Construction Reform Legislation: Sections 27-28.)

12. The Commonwealth should strengthen the connection between past performance, contractor certification, and award of future construction contracts by rewarding excellence and penalizing poor performers.

There is little connection between past performance, contractor certification, and award of future construction contracts. When a municipality puts a school project out to bid, it is possible that the low bid general contractor has a poor past performance record, however, the municipality must hire the low bidding contractor. Currently, less than 5% of contractors who seek pre-qualification though the Division of Capital Asset Management and Maintenance are rejected. Grades can be inflated when contractors are not evaluated candidly by municipalities and other hiring entities, if at all. It is not uncommon for a contractor with less than satisfactory performance on a previous job to be awarded future contracts. Contractors need to know that their performance on a job will affect any future work.

The Construction Reform legislation recently filed by the Cellucci-Swift Administration protects public officials, architects, and engineers who fill out designer and contractor evaluation forms from personal liability. It also requires an awarding authority to provide the contractor with an interim evaluation at the halfway-point of the project. If enacted, the legislation will encourage officials to fill out evaluation forms, screening out bad contractors. (Construction Reform Legislation: Sections 3, 14.)

13. Provide alternative delivery methods such as design/build for some projects. Criteria should be established for selecting project delivery methods such as the need for saving time and the owner's capacity to handle the project.

Currently, the Commonwealth only selects contractors that submit the lowest cost for a given project. Lowest cost, however, does not guarantee the best method to finish a time-sensitive product or best quality for a product difficult in scope.

The use of alternative methods, such as Design/Build, A + B Bidding, CM-at-Risk, Build/Operate/Transfer, will allow construction agencies to match the scope and the time-sensitivity of the project to the appropriate method. Municipalities should be allowed similar flexibility when time is of the essence. The new Commission should establish criteria for use of alternative project delivery methods to ensure that the municipality has the expertise required to manage an alternative method. (Construction Reform Legislation: Sections 27-28.)

These changes would:

- Make significant construction knowledge and expertise immediately available to applicants as they work with architects and contractors during the construction process (see also recommendations 2 and 16, staff and construction managers);
- Empower municipalities during the contractor selection process by allowing them to select the best contractor for the job, not just the cheapest; and
- Allow the time sensitive nature of school projects to be addressed in the delivery method selected.

Problem: The all-or-nothing funding approach of the current SBA program structure does not allow innovative programmatic and financing solutions for the many needs and pressures facing our municipalities. Because the only school projects eligible for state reimbursement of any kind are major renovations and new construction, the rational approach for a municipality is to submit such a project even if another solution such as a less extensive renovation would meet their classroom need.

Reimburse Alternatives to Building or Renovating

14. Expand the SBA program to reimburse alternatives to construction. These alternatives, when replacing the need for a new school building, would be reimbursed by the state at the applicant's SBA rate. Such options could include leasing (buildings or modular facilities); tuitioning-out; arrangements with higher education facilities, and other private or not-for-profit entities or use of municipal buildings; year-round schooling; or use of 'swing space'.

The current SBA program offers a single, expensive solution to a complex problem – build to solve. The one size fits all nature of the SBA program does not allow for creative solutions to enrollment problems. Cities and towns should be offered alternatives to consider and should be granted reimbursement if they pursue an alternative to construction. Each situation needs to be thoroughly analyzed to determine if it is better to renovate, build new construction or relocate pupils since many alternatives to construction lose financial and programmatic viability if they extend much beyond a 10 year period.

This change would:

- Allow municipalities to craft the most appropriate solution to their classroom demand and would remove the current financial incentive to pursue the most costly solution; and
- Free up additional state resources, which could then be used to fund additional waitlist projects.

Expand Category 1 and 2 Definition to Include Less Extensive Renovations

15. Remove the requirement that renovation projects must be full building renovations to be included as Category 1 and 2 projects.

Many municipalities complain that they cannot pursue smaller scale renovations because no SBA funds are available. As a result, they submit applications for more costly major renovations. A municipality may only wish to upgrade several building systems and install a computer lab, but since they will not receive reimbursement for this they pursue a full upgrade and renovation of the building as required by SBA regulations. Any municipality that wishes to pursue a small scale renovation and agrees not to approach the SBA program for funds for that school or that grade level for a ten-year period should be allowed to do so.

This change would:

- Allow municipalities to pursue the appropriate level of renovations to meet their building needs;
- Require careful review to ensure that the most cost-effective course of action is pursued; and
- Ensure that school buildings are appropriately maintained, when paired with the new building maintenance incentives, a low interest loan fund for other reconstruction projects, and maintenance plans and audits (see recommendations 15, 16 and 20).

Create a More Flexible, Responsive Financing Method

16. Create an incentive–based reimbursement formula based on local ability to pay as measured by equalized property values (EQVs) and income.

The rate structure of the current program was put in place in 1987 and has become outdated. Property values have changed dramatically in the last decade while SBA rates remained the same creating significant funding disparities. The single rate reimbursement structure also does nothing to create incentives for appropriate outcomes; on the contrary, the single rate reimbursement creates perverse financial incentives for undesirable outcomes such as building neglect and over building.

Similar to the original 1948 SBA formula, the new reimbursement rates would be calculated annually as follows:

38% Base Reimbursement Rate + Ability to Pay Percentage Points + Incentive Based Percentage Points = Average of 69% Reimbursement Rate

Ability to pay would be measured by a community's per capita property and income wealth relative to the statewide average. Additional incentive-based percentage points would be added for the following categories:

Figure 77: **Incentive Based Percentage Points**

Category	Percentage Points
Excellent Maintenance	8
Good Maintenance	4
Poor Maintenance	0
Alternatives to Construction	7
Innovative Community Use	3
Non-State Fund Raising	.5 for every 1% raised
Renovation/Reuse Proposals	4

Use of Stock Plans	2
Construction Managers	2

Maintenance

Each community applying for a SBA grant would undergo a maintenance audit of their school district and would receive a rating of excellent, good or poor. Basing a portion of a community's SBA reimbursement rate on its maintenance efforts would help balance the political and financial incentives to forgo proper building maintenance. (See Section II.) As we have shown, our school personnel report that the Commonwealth's school buildings are in significant disrepair yet the money allotted for extraordinary school maintenance in the foundation budget is spent for other education purposes. On average, our school districts have spent $9,000 per school building in each of the last 5 years for extraordinary maintenance, while more than $82,000 has been provided for each school in each of the last 5 years. Less than 11% of the total extraordinary maintenance funds provided in the foundation budget have been spent for this purpose.

Innovative Community Use

Municipalities should be rewarded for any proposal that combines community resources to streamline the costs of and leverage other funding sources for the SBA project. Innovative community uses can take on many forms – a community health facility within a school, a local library branch in a school building or an elderly lunch program served in a school cafeteria are just a few examples.

Examples of an innovative community use are occurring in Springfield, where a city library branch has been placed in a school building and in New Bedford, where the school district has provided space to house a police satellite office.

Non-State Fund Raising

A recent trend has documented that many schools are successfully accessing private donations and support for programs and facilities. This effort should be encouraged and rewarded. This incentive would award an applicant with an additional half of a percentage point on their reimbursement rate for each 1% of total project cost they raise in third party donations. Non-state fund raising could also include some federal grant programs accessible by schools. This incentive will encourage partnerships with local business and other community organizations, which can only serve to strengthen the community and the school.

Renovation/Re-use

Appropriate renovation of existing school structures saves the state and local governments money in several ways. First, renovations are typically less expensive than new construction. Second, renovations eliminate the need to mothball, maintain or raze an old school building. Third, in most cases a renovation will not require the acquisition of additional land and thus does not affect open space. Fourth, renovations often allow a community to maintain a downtown location or preserve a historic building. In order to encourage renovations, an additional 4 percentage points will be added to a community's reimbursement rate.

Stock Plans

Each time a community builds a new school in the Commonwealth, an architect is hired to design the facility from scratch. However, many of our school buildings are very similar in style and layout. To minimize the design costs of school buildings, the Commonwealth would offer communities a series of school plans for their use. While architects would have to adjust these plans for unique site requirements and other community specific modifications, communities would save money on architect fees.

Other states such as North Carolina provide such a service. Twenty-five school prototypes are available on a North Carolina Department of Public Instruction web site for viewing, including a picture of a facility built from the plan, the number of such facilities built, and the cost to build the facilities (See Appendix Q).

To encourage use of stock plans, a community would be granted an additional two percentage points on their reimbursement rate.

Construction/Project Manager

The use of construction managers on school projects offers many advantages to communities and should be encouraged. Not only do construction managers result in fewer change orders, they also assist in meeting the construction schedule. Several communities, Boston and Brookline for example, use construction managers with great success.

An additional 2 percentage points would be offered to communities who use construction managers on their school building projects.

Below are a series of tables that review the impact of the proposed incentive-based reimbursement model. The model is based on the following series of assumptions:

- 74% of the current SBA project waitlist is new construction projects and 26% is renovation projects. Based on these numbers, meetings with local officials and common inquiries and complaints about the program we introduce 3 scenarios of project-type participation for the new program.
- The incentive points described below for maintenance are based on the following assumption: that the commission will establish an "excellent" rating criteria for the first two years of the program that will be accessible for 50% of applicants. As the program takes root and maintenance is improved the commission may establish a higher standard of excellence for the rating criteria.
- Assumed rates of applicant participation for innovative community use, stock plans, nonstate-fundraising, and construction managers are based on current local and national trends and meetings with local groups. Innovative community use currently occurs in Massachusetts, on a small scale, without incentive. For example New Bedford recently combined resources between a school and the police station and placed a police substation in the school. Springfield placed a city library in a school building for use by students and the general public. States such as North Carolina and Florida offer stock plans for school projects. On a national level, Honeywell, an HVAC equipment company, recently built a school in Niagara, NY. Finally, use of construction managers by local governments for SBA projects has become more popular in the last few years without state incentive. In addition, the Inspector General recently recommended that school districts consider employing construction managers.

Figure 78 shows the number of projects assumed to access each type of incentive. It is assumed that as behavior changes over time, the number of communities accessing each incentive will shift. For example, in the first year of the incentive model, 50% of communities will receive an excellent maintenance rating, making them eligible for an additional 8 percentage points. In year 5, the number of districts with excellent maintenance ratings will increase to 75%. It is also assumed that in year 1, 25% of applicants will have incorporated innovative community use into their school proposal, with the exception of those submitting non-construction proposals, which we assume cannot access this type of incentive.

Figure 78 presents the average reimbursement rates anticipated in Year 1 and Year 5 by project type and by individual incentive category. For example, in Year 1, 50% of communities will access the additional 8 percentage points for excellent maintenance ratings. On average then, 4 additional percentage points will be awarded for this incentive category. Similarly, for third party fund raising, it is assumed that 25% of projects will raise 2% of total projects costs through third party donations. For this fund raising they would earn an additional 1 percentage point; therefore, on average a quarter of a percentage point will be earned in this category (25% of applicants will earn 1 percentage point).

Figure 78: **Incentive Point Model**

Criteria	**Incentive Percentage Points**	**% Projects Accessing Incentive** **All Project Types**		**Exception**		**Project Type**
		Yr 1	**Yr 5**	**Yr 1**	**Yr 5**	
Excellent Maintenance	8	50%	75%			
Good Maintenance	3	40%	20%			
Poor Maintenance	0	10%	5%			
Alternatives to Construction	7	See Scenarios				
Innovative Community Use	3	25%	50%	*0%*	*0%*	*Non-Con.*
Non-state Fund Raising	.5 for every 1%	25%	25%	*10%*	*10%*	*Non-Con.*
Renovation/Reuse Proposals	4	See Scenarios				
Use of Stock Plans	2	50%	50%	*15%*	*15%*	*Renov.*
Construction Managers	2	50%	75%	*0%*	*0%*	*Non-Con.*

As *Figure 79* illustrates, it is expected that renovation projects will be reimbursed in year 1 at 68.9%, just above the current average of 68.6%; non-construction alternatives will earn an average rate of 70% in year 1; and new construction, the most expensive alternative, will earn 65.6%, roughly 3% under the current state average.

Figure 79: Incentive Model Results

Average SBA Incentives Earned: Year 1 and Year 5

	Maximum Incentive	**New Construction** **Yr 1**	**Yr 5**	**Renovation** **Yr 1**	**Yr 5**	**Non-Construction** **Yr 1**	**Yr 5**
Excellent Maintenance	8.00%	4.0%	6.0%	4.0%	6.0%	4.0%	6.0%
Good Maintenance	4.00%	1.6%	0.8%	1.6%	0.8%	1.6%	0.8%
Poor Maintenance	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Alternatives to Construction	7%					7.3%	7.3%
Innovative Community Use	3%	0.8%	0.8%	0.8%	0.8%		
Non-state Fund Raising	.5% for every 1%	0.25%	0.25%	0.25%	0.25%	0.10%	0.10%
Renovation/Reuse Proposals	4%			4.0%	4.0%		
Use of Stock Plans	2%	1.0%	1.0%	0.3%	0.3%		
Construction Managers	2%	1.0%	1.5%	1.0%	1.5%		
Average Incentives Earned		8.6%	10.3%	11.9%	13.6%	13.0%	14.2%
Average State Reimbursement		65.6%	67.3%	68.9%	70.6%	70.0%	71.2%

To understand the actual impact requires that we examine more than the average reimbursement rate since all of the incentives proposed have the additional impact of reducing the overall costs of the project. As a result, although an average reimbursement rate might drop, the actual cost to the community may also be lower.

Figure 80 illustrates the amount of state funds that will be made available to reinvest in additional projects.

Three scenarios are provided to illustrate the possible cost changes resulting from three project mixes:

For these projections, we used the weighted averages for renovation and new construction cost of projects funded in FY99, FY00 and on the current waiting list. We assumed an annual cost of $500,000 for non-construction alternatives. For those communities able to access each incentive category, the following savings assumptions were used: construction managers would save 3% of project costs (5% total savings less 2% cost for manager); use of stock plans would save 3.5% of project costs; and third party fund raising would save communities 1% of project costs.

Figure 80: Incentive Model - New Projects Possible through Incentive Savings
Estimates Based on Costs of Current Waiting List Projects; Assumes 58 New Projects Annually

Project Type	Scenario 1		Scenario 2		Scenario 3	
Non-Construction	10%		5%		15%	
Renovations	75%		80%		80%	
New Construction	15%		15%		5%	
State	Yr 1	Yr 5	Yr 1	Yr 5	Yr 1	Yr 5
Non-Construction	$ 2,026,521	$ 2,061,287	$ 1,013,261	$ 1,030,643	$ 3,039,782	$ 3,091,930
Renovations	26,331,210	26,760,019	28,086,624	28,544,020	28,086,624	28,544,020
New Construction	5,493,657	7,997,282	7,860,434	7,997,282	2,620,145	2,665,761
Cost - Incentive Model	$ 33,851,389	$ 36,818,587	$ 36,960,319	$ 37,571,945	$ 33,746,551	$ 34,301,711
Cost - Current Prgm	42,081,421	42,081,421	42,081,421	42,081,421	42,081,421	42,081,421
Resources Freed	8,230,033	5,262,834	5,121,103	4,509,476	8,334,871	7,779,710
Possible New Projects	11	7	7	6	11	11

As can be seen in *Figure 80*, depending on the change in project mix the incentive-based model would free up enough funds for 6 to 10 additional projects per year – a minimum of $4 million annually and possibly as much as $8 million annually.

The impact on communities is equally compelling. *Figure 80A* illustrates the impact of project cost on communities. The combination of lowered project costs and changing reimbursement rates results in savings for communities of $500,000 to $3.3 million annually.

Figure 80A: Community Savings Incentive Model
Estimates Based on Costs of Current Waiting List Projects; Assumes 58 New Projects Annually

Project Type	**Scenario 1**		**Scenario 2**		**Scenario 3**	
Non-Construction	10%		5%		15%	
Renovations	75%		80%		80%	
New Construction	15%		15%		5%	
Community	**Yr 1**	**Yr 5**	**Yr 1**	**Yr 5**	**Yr 1**	**Yr 5**
Non-Construction	$ 871,450	$ 836,650	$ 435,725	$ 418,325	$ 1,307,175	$ 1,254,975
Renovations	12,016,591	11,266,742	12,817,697	12,017,858	12,817,697	12,017,858
New Construction	4,126,620	3,890,169	4,126,620	3,890,169	1,375,540	1,296,723
Cost - Incentive Model	$ 17,014,661	$ 15,993,561	$ 17,380,042	$ 16,326,352	$ 15,500,412	$ 14,569,556
Cost - Current Prgm	18,026,767	18,026,767	18,026,767	18,026,767	18,026,767	18,026,767
Possible Local Savings	1,012,106	2,033,207	646,725	1,700,416	2,526,355	3,457,211

This change would:

- Reward municipalities for making appropriate decisions;
- Remove the perverse financial incentives that encourage inappropriate decisions;
- When paired with the expansion of renovation projects eligible for reimbursement, a low interest loan fund for other reconstruction projects, and maintenance plans and audits, (see recommendations 15, 16, 19 and 21), ensure that our school buildings are appropriately maintained; and
- Allow a significant number of additional projects to move forward each year.

Problem: The way in which the state provides support for building maintenance adds a financial rationale to the existing political rationale ensuring the neglect of school buildings.

The current SBA program structure does not give municipalities an incentive to maintain school buildings. Despite efforts through the Education Reform Act to fund and encourage routine and extraordinary maintenance, the current SBA program makes it more economical for the municipality to forestall such maintenance, and allow the building to fall into serious disrepair. At that time the Commonwealth will reimburse the municipality on average, 69% of the cost of a new, or newly renovated building. When added to the political incentive to spend Education Reform funds for other more appealing education purposes, efforts to appropriate funds for building maintenance face significant hurdles.

Encourage Maintenance of Current Building Stock

- ➢ Provide additional reimbursement percentage points for excellent and good maintenance ratings (see recommendation 16).

- ➢ Expand the types of renovations/reconstruction projects eligible for reimbursement under category 1 and category 2 definitions (see recommendation 15).

17. Create a maintenance assessment program and issue ratings of the building conditions for each school district; survey current conditions, develop a model plan, and provide technical assistance and information.

Districts applying for SBA funding would open schools to a state maintenance inspection/audit as part of the application review. Municipalities would be required to submit preventative and ordinary maintenance plans with accompanying budgets as a component of their application. **Ohio, New York legislation pending.** (See Appendix S for possible components of a school's maintenance plan.)

18. Remove the current BOE cap on maintenance spending applicable to Education Reform local spending requirement.

The cap has recently been lifted from $50,000 to $100,000 but the average major reconstruction project costs $400,000. Municipalities and school districts should have the flexibility to spend funds on repairs as they deem necessary.

These changes would:

- Provide municipalities with independent information on the condition of their schools, impacting the local budgeting process;

- Provide the state with building condition information necessary to monitor the classroom environment of our students; and
- When paired with the expansion of the type of renovation projects eligible for category 1 and 2 reimbursement and the creation of incentives for proper building maintenance, (see recommendations 15 and 16), ensure that our school buildings are appropriately maintained.

Problem: The statutory reimbursement rates are out-dated and inequitable; and aspects of the program's financing structure are highly inefficient.

19. Update reimbursement rates to reflect current per capita property and income wealth of communities. (See Recommendation 16).

20. Allow the Commission to make certain project cost components separable.

The new Commission should have the flexibility to allow innovative solutions to school construction projects, including solutions that involve municipal partnering. For example, if a sewer connection must be made to a new school construction site and the town wished to expand the capacity of that sewer line to service other town needs in the area, the Commission should be allowed to separate that cost component out of the total project cost and negotiate a fair deal with the town. If the town wished to pay 100% of the costs for the increased capacity, the Commission should have the flexibility to reach such an agreement and reimburse the portion of the project attributable to the school.

21. Create a new trust that will make pooled debt issuance for SBA projects on behalf of cities and towns.

Figure 81 **Pooled and State Backed Bond Issuance**

The California State Treasurer, Phil Angelides, recently released a school bond issuance plan in which the California State Teachers Retirement System (CalSTRS) has agreed to offer financial backing to school bond issuances. The program will offer an optional credit enhancement to districts that chose to participate through the School Finance Authority. CalSTRS will charge a fee for this backing. The program will be flexible enough to allow districts to chose to participate in pooled issuances or individual issuances with the backing of CalSTRS. The mainstay of the program will be savings gained through the pooled bond issuances (grouped bond issues of several districts issued in a single transaction).

School Building Assistance Pooled Issuance Program

Under the current SBA financing method, municipalities bond for the entire project cost and the Commonwealth reimburses a percentage of the total cost annually. The Commonwealth reimburses both projects that receive less expensive financing than the Commonwealth might obtain, as a result of high municipal credit ratings, and projects that receive more expensive financing as a result of poorer municipal credit ratings.

The Commonwealth presently has a credit rating of Aa2/AA-/AA-, a higher credit rating than 338 municipalities.[102] By creating a "pool" for SBA bond issuance the Commonwealth can save a significant amount of money as a result of lower interest rates and lower issuance costs, which can then be used to fund additional SBA projects. As was discussed earlier in this report, the cost to issue bonds runs about 1 ½% of the borrowed amount. In FY1997 and FY1998, cities and towns spent upwards of $4 million on issuance costs for SBA borrowings.

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[102] Of the communities with bond ratings, 238 have lower ratings that the Commonwealth. In addition, 100 communities are not rated. EOAF estimates that these unrated communities would not have a higher bond rating than the Commonwealth were they to be rated.

Municipalities will have their portion of the SBA project cost assessed annually from their local aid payments, which will enhance the credit rating of the pool. The Commonwealth will make direct payments to the pool for its share of SBA payments. School building assistance bonds will be issued by a state agency with relevant expertise. All school districts will be required to finance their renovation and new construction projects through the pooled program.

To model the effectiveness of a pooled program, the current waiting list of 126 projects was used as model bond issuances. It was assumed that 60 of these projects would be funded, consistent with recent appropriations for new projects, and all 60 would be required to participate in the pooled issuance. Reimbursement rates for those projects ranged from 64% to 90%.

Based on these assumptions, the state would realize approximately $1.7 million in annual savings for the payment schedule of these 60 projects. See *Figure 82*. The savings would be attributable to more favorable interest rates achieved due to the greater liquidity (ability to sell to a favorable market when the holder desires), more competitive bond insurance rates and stronger credit of a pooled program. In addition, savings also would be generated by a reduction in legal fees and other issuance costs. Finally, in the future a pooled program could more easily achieve savings from or maximize the benefits of refinancings, national initiatives such as the Qualified Zone Academy Bonds, and derivative products.

A pooled program could expect to have issuance costs of less than 1 1/2 percent, while some communities pay above 2 percent in issuance costs.

Figure 82: **Current Program and Pooled Program Comparison**

	Current Program Payment	**Total Issuance Size**	**Pool Debt Service Program**	**Savings**
Totals	$49,905,744	$770,784,193	$48,254,679	$1,651,065
Estimated Interest Rates (Average of Communities vs. Pooled Rate)	6.00%		5.65%	.35%

The pooled program would be attractive to investors given its size and minimal risk. The ability of the pooled program to meet its financial commitment is strong especially since the Commonwealth would pay most of the debt service and the remaining balance would be deducted directly from local aid payments. It also will be a new Massachusetts credit (a new option for investors to purchase Commonwealth issues), which is very attractive to financial markets constantly looking for Massachusetts product.

The savings from this pool model would be used to capitalize a low interest Major Reconstruction Revolving Loan Fund (See Recommendation 26).

22. Require districts to notify the SBA Commission of their actual interest rate within 30 days of initial bonding and require the SBA Commission to reimburse at the actual rate and adjust upwards, if necessary, after the final audit has been submitted.

This recommendation is not necessary for the newly created pooled program, however it is important for projects that are currently receiving funding.

As noted in the State Auditor's recent report[103], communities do not notify DOE of their actual interest rates for many years. The auditor estimated that the overpayment of loans based on incorrect interest rates may have reached $15 million during FY95. This money could have been used to fund additional projects.

23. Require that municipalities submit notification to the SBA Commission within 30 days of refinancing SBA debt. DLS has agreed to send a printout of municipalities with SBA grants that have refinanced debt, on an annual or biannual basis to the SBA Commission.[104].

This recommendation is not necessary for the newly created pooled program, however it is important for projects that are currently receiving funding.

24. The SBA Commission should enforce its ability to immediately suspend payments to districts that are late in submitting their final audit.

While the Board has the authority to suspend payments for this reason it has not historically done so. The DOE has recently made it clear to communities that it will begin to enforce this requirement. No payments have been suspended this year as all municipalities have submitted the required information.

These changes would:

- Allow the Commonwealth to share the benefit of a solid credit rating with municipalities and, with the accompanying savings move more projects forward each year; and
- Allow the Commonwealth to move more projects forward each year by tightening up regulations regarding refinancing and reporting.

Manage the Out-Year Obligation of the SBA Program

25. Do not reimburse for the interest costs on interim borrowing for all projects where construction begins before state funds are available excluding projects necessary for life/safety projects and for eliminating severe overcrowding.

Currently, there is no limit to the perceived financial obligation the DOE can incur on behalf of the Commonwealth. As soon as DOE staff approves a project, they inform the applicant that they may begin construction regardless of the availability of state funds for this project. Once construction has begun, it is difficult to deny funding for the project. Today, the Commonwealth's out-year obligation stands at $6 billion and is growing. **By FY2005, we will have a greater outstanding obligation for SBA than we do for our total General Obligation debt, which supports the statewide capital spending program.**

Instead of creating inflexible limits on the total out-year obligations the Commonwealth can incur for this program as we do for General Obligation debt, the Commonwealth should pursue a more flexible option. Municipalities should be allowed to go forward with school projects before state funds are available but the Commonwealth should not reimburse for interest costs on any interim borrowing necessary to begin the construction prior to the availability of state funds.

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[103] Commonwealth of Massachusetts State Auditor's Office, *State Auditor's Report on Certain Activities of the School Building Assistance Program at the Department of Education,* May 28, 1998.

[104] The Department implemented regulations this year requiring districts to notify the Department within 90 days of refinancing debt

This change would:
- Allow municipalities to weigh the benefit of starting a project early versus paying interest costs on interim borrowing without state subsidy; and
- When paired with the new project ranking method (see recommendation 34), allow essential projects to move forward immediately without a reduced reimbursement.

Finance Major Reconstruction Projects

26. Create a new low interest loan fund for major reconstruction projects.

To address those instances where a community wishes to undertake a major reconstruction project but does not wish to pledge that they will not submit an SBA application for the building in question for 10 years (see recommendation 15), communities would be able to access low (2%) interest loans from a Major Reconstruction Revolving Loan Fund (MRRLF)[105].

The MRRLF will assist districts with the costs of major repairs and extraordinary maintenance projects such as roof repair, HVAC, and other major building components by providing low interest loans to school districts.

The MRRLF will receive funding from the following sources:
- A $2M direct appropriation for 4 years (using the current appropriation for SBA emergency repairs);
- Savings generated from the Pooled Program for 4 years (See recommendation 21 for a description of the pooled program);
- Interest earnings; and
- Loan repayments

Figure 83: **Funding of the Major Reconstruction Revolving Loan Fund**

Fiscal Year	Direct Appropriation	Pool Savings	Loan Repayments	Interest Earnings	Starting Capitalization	Loans	Loan Proceeds	Principal Outstanding	Unused Balance
2000	$ 2,000,000	0	0	0	$ 2,000,000	5	2,000,000	2,000,000	$ -
2001	$ 2,000,000	$ 1,651,065	$ 400,000	$ 40,000	$ 4,091,065	9	3,780,000	5,380,000	$ 311,065
2002	$ 2,000,000	$ 3,302,130	$ 1,076,000	$ 123,153	$ 6,812,348	15	6,615,000	10,919,000	$ 197,348
2003	$ 2,000,000	$ 4,953,194	$ 2,183,800	$ 228,247	$ 9,562,589	20	9,261,000	17,996,200	$ 301,589
2004		$ 6,604,259	$ 3,599,240	$ 375,003	$ 10,880,092	22	10,696,455	25,093,415	$ 183,637
2005		$ 8,255,324	$ 5,018,683	$ 511,050	$ 13,968,694	27	13,783,841	33,858,573	$ 184,853
2006			$ 6,771,715	$ 686,414	$ 7,642,982	14	7,504,536	34,591,394	$ 138,446

Districts would be required to repay these loans within five years. Assuming an average major reconstruction project cost of $400,000[106] and a low capitalization amount, the MRRLF will be able to sustain low interest loans for approximately 15 to 25 major reconstruction projects over the first few years. Because the project costs will grow over time, maintaining 15 to 25 projects per year would require a small amount of additional capitalization in the future. In addition, the number of projects that would be funded through this type of mechanism could easily be increased with additional capitalization.

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[105] A revolving loan fund is a loan program that provides low or no interest loans for projects and re-capitalizes itself through loan repayments and other funding sources. In theory, this type of loan fund is called "revolving" because once capitalized it is able to sustain a certain level of activity indefinitely if not overdrawn.

[106] Average cost of recent additions to the Major Reconstruction waiting list.

27. Dedicate up to $50 Million of year-end surplus revenues for each of the next 3 years to pay off the $165 million Major Reconstruction waiting list of 450 projects.

Each project would receive a proportionate share of available surplus funds each year. This will fully eliminate reimbursements due under the current major reconstruction program, which will be changed to a zero interest loan program for all new project submissions.

Problem: The current SBA program has cost and square foot guidelines created in an attempt to corral project costs. These limits are viewed by many as a starting point as opposed to a limit. The SBA administrators grant waivers to allow schools to exceed these limits for any number of reasons. These waivers frequently add to the overall cost of the projects. More expensive school projects in one town reduce the funding available for other projects.

28. The new Commission should develop prototype schools as a guide for allowable grant amounts. Stock plans should be developed from these prototypes and be made available to municipalities.

The Commission should examine the current per pupil square foot allowance, the class size requirements and the allowable reimbursement per square foot and make recommendations for a median school by grade type that meets the educational needs of the students without incurring excessive costs. The Commission would develop a bank of stock plans for the prototype schools, which the municipalities may use for school construction. Reimbursement for school projects would be limited to the cost of a prototype school. Any cost over and above the prototype school cost would be incurred entirely by the city or town. The Commission should also review the need to modify allowable reimbursement amounts for regional variations in construction costs.

This change would:

- Provide uniformity and equity to the school funding process;
- Provide municipalities with a selection of stock plans, reducing their project costs.

29. Determine a value for Furnishing and Equipping (F&E) costs for each prototype school and define allowable F&E costs.

Under current practice, applicants use the F&E allowance to back fill their projected costs up to the approved grant amount. If the project should be finished below the approved grant amount, they will simply use the remaining balance to purchase extra furnishings and equipment for the school. A specific value for F&E costs and a list of allowable F&E costs should be developed for each prototype school.

Problem: The current racial desegregation program provides an enormous incentive to build new schools (90% reimbursement rate). The BOE accepts local assertion that building a new school will end racial segregation in the district and applies no rigor to the application review. Once given a 90% reimbursement rate, no school district has ever been asked to prove the success of its voluntary racial desegregation plan or had the 90% reimbursement rate removed. Finally, the current process is not addressing the needs of some of the state's poorest communities.

30. Prospectively move from providing 90% reimbursement for voluntary racial desegregation projects to providing 90% reimbursement for projects in the state's poorest communities.

Across the country and here in Massachusetts, programs with race-based criteria are under attack as unconstitutional. The Massachusetts racial balance law has now been challenged in court.

Instead of providing 90% reimbursement for voluntary racial desegregation projects, the commission should provide 90% reimbursement for the state's poorest communities. Districts which have a percentage of low-income students, as determined by student eligibility for free and reduced lunch, that is 133% or greater than the statewide average percentage of low-income students should receive 90% reimbursement.

Problem: In the 1999-00 school year there are 39 charter schools operating in the state. Charter schools are public schools that are free of many of the regulatory strictures placed on other public schools. They receive state education aid but do not currently receive capital funding from the state and are not eligible for SBA funds. Lack of capital funding for charter schools has forced many school children into buildings inadequately suited for educational purposes and has caused a financial hardship for these schools.

31. Charter schools should be eligible to receive SBA funds.

The five year life of a charter precludes charter schools from accessing long term debt for capital construction. However, the flexibility of the new school facilities program is designed to help meet the facility needs of all public K-12 schools, through reimbursements for alternatives to construction, such as state subsidies for leased space, modular facilities, community partnerships and other options.

Miscellaneous Recommendations

32. The new School Facilities Commission should develop a computer based information system that can track all aspects of construction projects and school facility information.

Develop Formal Enrollment Projections

33. The new School Facilities Commission should develop a formal enrollment projection model or consider using projection models already available.

While enrollment projections are one of the most significant cost drivers in the SBA reimbursement formula, the DOE requires no standardized methodology for projections. The SBA administrators generally take school district projections at face value without requiring detailed back-up, or a description of the methodology used to generate the projections. In addition, although the SBA application requests enrollment projections for 10 years out, a review of several applications suggest that many school districts only provide 5-year projections.

Projects Necessary for Safety Reasons Should be Funded First

34. Develop a project priority system that allows safety projects to receive funding priority but also considers the length of time a project has been waiting for funding in establishing the annual funding list.

The current SBA statute requires that projects be prioritized for payment in the following manner:

"The board shall approve school projects and reimbursements under this chapter in accordance with the following order of priorities:

1. priority shall be given to school projects needed in the judgment of said board to replace or renovate a building which is structurally unsound or otherwise in a condition seriously jeopardizing the safety of school children, where no alternative exists;
2. priority shall be given to school projects needed in the judgment of said board to prevent severe overcrowding expected to result from increased enrollments or to eliminate existing severe overcrowding;
3. priority shall be given to school projects needed in the judgment of said board to prevent loss of accreditation;
4. priority shall be given to any school project needed in the judgment of said board for the replacement, renovation or modernization of the heating system in the schoolhouse to increase energy conservation and decrease energy related costs in said schoolhouse; and
5. priority shall be given to school projects needed in the judgment of said board to replace, or add to obsolete buildings in order to provide for a full range of programs consistent with state and approved local requirements."[107]

The Board does not prioritize projects for funding based on necessity or project urgency despite this statutory language. Projects are prioritized for funding using a formulaic calculation that considers enrollment, school size and reimbursement rate.

The new School Facilities Commission should establish a point system for establishing project priorities such as the following:

Figure 84: **Priority Criteria**	**Points**
Life/Safety Threat – the building is structurally unsound and unsafe for children.	10
Existing Severe Overcrowding as determined by the necessity to curtail course offerings, alter the original purpose for which rooms were structured or institute double sessions.	5
Potential loss of NEASC accreditation due to facility condition or overcrowding.	4
Accreditation warning status due to facility condition or overcrowding.	2
3 consecutive years of actual, substantiated enrollment growth.	3
Excessive technological and programmatic needs as determined by the commission in conjunction with NEASC standards.	3
Energy conservation project.	2
Short term enrollment growth (a bubble in enrollment in one age group that will pass through the school system) as determined by commission enrollment projections.	1
Each year on the waiting list.	1

This method of project prioritization will allow life/safety projects to be funded first each year.[108] However, to ensure that some projects do not languish on the waiting list as has been the experience in past years[109], projects would receive one point for each year the project remain on the waiting list after the first year.

This change would:

- Lessen the need for municipalities to get their project on the list as soon as possible; and

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[107] MGL Ch 70 APP s. 1-10. The entire school building assistance statute, as amended, can be found as an appendix to chapter 70 of the General Laws.

[108] The lower SBA reimbursement rate that would result from a poor maintenance rating (see recommendations 16 and 19) should counterbalance any negative incentive created by providing funding to life/safety projects first.

[109] To deal with this issue, the waiting lists were frozen in 1993. Projects were prioritized within but not between years creating a large incentive to submit projects as quickly as possible.

- Ensure that students facing the greatest needs receive funding for their local projects first.

Further Areas to Explore

Qualified Zone Academy Bonds

The federal government has enacted a program that allows schools in enterprise or empowerment zones or schools where 35% of the students are eligible for free or reduced lunch to issue school bonds that, instead of offering an interest return, offer a federal tax credit. The bond proceeds must be used for facility rehabilitation or renovation projects, equipment, curriculum or staff training costs.

The federal government has authorized $400 million in 1998 and 1999 and $2.4 billion in 2000 and 2001. The Commonwealth can take advantage of $45.7 million in eligible bond issuance for tax credits for this program. Eleven communities across the country have taken advantage of this program to date.

However, the limits on eligibility would allow only 27 communities in Massachusetts to access these funds; and those able to access the funds could not use the funds for new construction.

The new Commission should continue to monitor anticipated changes to the program and recommend legislative changes necessary to ensure that our communities can access this program where appropriate. The Commission should also educate eligible communities on how to access the current program. In addition, the Commission should consider combining QZAB financing with traditional SBA financing when appropriate to achieve savings for municipalities and the state.

X. Appendix

A – Acts Extending the School Building Assistance Program

B – Historical Expansions to the School Building Assistance Act

C- Major Reconstruction List Additions Since FY93

D- List of Communities with Tax Levies at 2.0%+ of Full Property Value in FY99

E – Location of SBA Projects from 1971-1999 Including Waitlist

F – Map - Change in Massachusetts Employment 1991-1998

G – Map- 1990-1995 Population Change

H- Listing of Regional School Districts and Member Towns

I - Example of a PRIME data page

J – SBA Capital Grant Application

K – Examples of Maintenance Plans

L – 1997 Memo Clarifying SBA Regulations in Regard to Massachusetts Building Code

M – Acreage Recommendations for Densely Populated States

N – Open Space Land Conversions

O – Department Forms for the Final Audit

P – Communities with Approved Voluntary Desegregation Plans

Q – North Carolina School Designs

R - Peer State Analysis

S - Possible Components of a Maintenance Plan

Appendix A

Acts that extended the school building assistance program.

Chapter 508, Acts of 1950
Chapter 413, Acts of 1952
Chapter 356, Acts of 1958
Chapter 471, Acts of 1964
Chapter 280, Acts of 1971
Section 7, Chapter 302, Acts of 1976
Chapter 526, Acts of 1981
Chapter 309, Acts of 1986
Section 17, Chapter 303, Acts of 1987
Section 2, Chapter 746, Acts of 1987
Section 203, Chapter 38, Acts of 1995
Chapter 151, Acts of 1996
Chapter 194, Acts of 1998
FY99 General Appropriations Act

APPENDIX B

HISTORICAL EXPANSIONS TO THE SCHOOL BUILDING ASSISTANCE ACT

DATE	STATUTORY REFERENCE	GRANT RATE FOR CONSTRUCTION	GRANT RATE FOR INTEREST	SIGNIFICANCE OF AMENDMNETS
1948	St. 1948, c.645	20-50% c/t * 55-55% reg. **	None	Initial enactment of SBA.
8/2/49	St. 1949, c.637	Unchanged c/t 35-65% reg.	Unchanged	
5/29/50	St. 1950, c.490	Unchanged	Unchanged	Provide reimbursement for original equipment.
9/4/57	St. 1957, c.703	Unchanged	Unchanged	County schools become eligible for assistance as a city or town.
9/14/59	St. 1959, c.591	Unchanged	Unchanged	Provide for reimbursement for matching stabilization fund grant for $75K and up.
4/14/61	St. 1961, c.377	Unchanged	Unchanged	Established $100K maximum for stabilization fund grants.
5/17/61	St. 1961, c.471	30-50% c/t 35-65% reg.	Unchanged	
6/10/63	St. 1963, c.467	40-50% c/t 40-65% reg.	Unchanged	
7/19/68	St. 1968, c.707	Unchanged	Unchanged	Identified certain communities as “depressed areas” and provided for a 50% grant rate for these cities and towns.
7/25/68	St. 1968, c.754	Unchanged	Unchanged	Provided reimbursement for renovation costs.
9/3/69	St. 1969, c.904	Unchanged	Unchanged	Provided for 65% grant rate for the regions having 60% of the member communities defined as “depressed areas.”
11/9/71	St. 1971, c.1010	50% base rate 65% depressed areas c/t 50-65% reg.	50-65%	Provided for the same reimbursement rate for all interest cost as applied to construction cost.
11/12/73	St. 1973, c.1018	Unchanged	Unchanged	Provided reimbursement for acquisition of an existing structure with land for conversion into a schoolhouse.
11/28/73	St. 1973, c.1103	Unchanged	Unchanged	Eliminated depressed area provision.
8/23/76	St.1976, c.302	50-65% c/t 50-65% reg.	20-32.5% c/t 50-65% reg.	The interest cost reimbursable to cities and towns was reduced to 40-65% of ½ the interest.
10/27/76	St.1976, c.511	Unchanged	Unchanged	Provide for approvals to be limited to the level of an annual legislative authorization.

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* C/T – reimbursement rate for cities and towns

** REG. – reimbursement rate for regional school districts

APPENDIX B

HISTORICAL EXPANSIONS TO THE SCHOOL BUILDING ASSISTANCE ACT

DATE	STATUTORY REFERENCE	GRANT RATE FOR CONSTRUCTION	GRANT RATE FOR INTEREST	SIGNIFICANCE OF AMENDMNETS
7/22/78	St. 1978, c.564	Unchanged	Unchanged	1. Provided for reimbursements for leasing of vocational education space by region.
12/29/82	St. 1982, c.613	Provided 90% reimbursement for racial balance		1. Provided reimbursement of 100% of the interest cost for growth districts. 2. Defined heating system related projects as eligible from assistance.
11/23/83	St. 1983, c.515	Unchanged	Unchanged	1. Defined roofs, energy conservation, accessibility projects as reimbursable. 2. Redefined racial imbalance as minority isolation, thereby increasing the number of projects. 3. Provided for unequal annual grant payments.
12/27/84	St. 1984, c.394	60-75% c/t 60-75% reg.	60-75%	1. Added certain finance costs associated with projects as a reimbursable expense. 2. Provided for growth districts to receive 70-75% reimbursement. 3. Established districts of extreme critical need which were then eligible for an additional 5% on the grant rate.
1/14/88	St. 1987, c.746	50-90% c/t 50-90% reg.	50-90% of 100% of the project interest costs	1. Eliminated use of commission as approving body; creating program at DOE with BOE approval necessary for projects. 2. Established the alternative method of payment (state capital bond issue with accelerated payments). 3. Eliminated growth and critical needs. 4. Established allocation of authorization providing 85% for capital projects and 15% for all others (roofs, boiler, etc.). 5. Established $100K as minimum project cost eligible for aid, except in communities with populations under 5,000. 6. Provided 90% reimbursement for urban-suburban collaborative and racial desegregation projects. 7. Provided for cherry sheet assessments on assisted schools removed from service as schoolhouse.
7/12/89	St. 1989, c.232	Unchanged	Unchanged	1. Provision allowing communities and regional school districts to commence construction prior to State Board approval without jeopardizing future state aid. Strikes a previous sentence in statute which forbade towns from beginning construction before application was approved. 2. Provided for SBA payments to begin in the fiscal year after Board approval or construction, whichever is the later date.
8/12/90	St. 1990, c.175	Unchanged	Unchanged	1. Provided for communities to bond for school construction projects using level debt services. 2. Prevents the Commonwealth from sharing in any savings generated by refinancing bonds or notes issued under St. 1948, c. 645.

* C/T – reimbursement rate for cities and towns

** REG. – reimbursement rate for regional school districts

HISTORICAL EXPANSIONS TO THE SCHOOL BUILDING ASSISTANCE ACT

1990	FY 1991 Budget	Unchanged	Unchanged	1. Re-enacted the grant rate structure established in the 1989 amendments to Chapter 645 due to expire 6/30/90. 2. Provided the City of Chelsea with 95% reimbursement under the Act.
FY93	St. 1992, c. 133, s. 572	Unchanged	Unchanged	1. Eliminated 85/15% split of funds for construction/major reconstruction projects effectively freezing the major reconstruction waiting list.

* C/T – reimbursement rate for cities and towns

** REG. – reimbursement rate for regional school districts

APPENDIX C

Major Reconstruction List Additions Since FY 93

CITY/TOWN	SCHOOL	DATE	AMOUNT
Abington	Abington High	9/28/94	$198,360.00
Abington	Frolio Jr. High	9/29/94	$118,636.00
Acushnet	Acushnet Elementary	5/16/95	$361,389.00
Amherst-Pelham	Amherst Regional Jr. High	6-1694	$654,506.00
Auburn	Pakachoag	8/22/96	$114,368.00
Avon	Avon Senior High	8/29/92	$228,340.00
Boston	West Roxbury School	4/30/98	$648,951.00
Boston	William Taft Middle	10/19/97	$789,660.00
Boston	William McKinley	9/8/98	$110,000.00
Boston	Wm B Rogers Middle	3/1/98	$1,387,255.00
Bridgewater-Raynham	Regional	6/25/93	$515,307.00
Bridgewater-Raynham	Dr. E. Laliberte Jr.	6/8/95	$181,040.00
Bristol-Plymouth	Voc-Tech	5/18/93	$695,400.00
Brockton	Ashfield	6/21/96	$174,814.00
Brockton	Brookfield	6/21/96	$376,000.00
Brockton	Edgar B Davis	6/21/96	$339,901.00
Brockton	Oscar Raymond	6/21/96	$370,301.00
Brockton	Winthrop	8/14/97	$1,340,000.00
Burlington	Wildwood	5/20/93	$104,078.00
Dartmouth	Joseph DeMello	6/20/97	$131,935.00
Dighton-Rehoboth	Palmer River	7/16/92	$77,071.00
Douglas	East Douglas Elementary	7/19/93	$226,861.00
Dudley-Charlton	Regional	6/5/95	$955,217.00
Duxbury	Alden Elementary	5/26/94	$167,500.00
Duxbury	Chandler Elementary	5/26/94	$469,000.00
Duxbury	High School	5/26/94	$1,005,000.00
Framingham	Barbiere Elem.	6/30/98	$558,616.00
Framingham	Brophy	6/30/98	$374,921.00
Framingham	Charolotte Dunning	5/24/96	$702,230.00
Framingham	High School	7/13/94	$1,483,853.00
Framingham	Hemenway	5/23/96	$694,912.00
Framingham	Potter Road	5/30/96	$507,854.00
Franklin	High School	9/28/92	$1,239,033.00
Franklin	County Tech	5/16/94	$690,769.00
Gardner	Jr. High	10/19/92	$147,440.00
Gardner	Sauter Elem.	11/4/92	$105,640.00
Gateway	Gateway Regional	7/12/96	$991,741.00
Georgetown	Penn Brook	5/29/96	$248,618.00
Gill-Montague	Gill Elem.	7/25/94	$185,030.00
Gill-Montague	Gill Elem.	12/20/94	$215,370.00
Gill-Montague	HillCrest Street	7/25/94	$277,540.00
Gill-Montague	Sheffield Elem.	7/25/94	$102,514.00
Gill-Montague	Turners Fall High	3/23/95	$420,135.00
Grafton	Memorial Senior	6/1/97	$85,000.00
Hatfield	Smith Academy	7/16/96	$285,152.00
Hingham	Plymouth River	7/24/98	$115,534.00
Hingham	Foster Elem.	9/12/94	$96,929.00
Holbrook	Jr./Sr. High	5/30/95	$742,647.00

Holbrook	JFK	5/30/95	$102,446.00
Holbrook	South Elem.	5/30/95	$175,010.00
Holden	Mountview	6/16/97	$1,053,714.00
Holland	Elem.	8/8/96	$138,438.00
Holyoke	Dr. Wm. Peck	6/12/97	$602,943.00
Holyoke	Edward White	6/12/97	$602,943.00
Holyoke	Holyoke High	9/20/95	$1,308,060.00
Holyoke	Lynch Jr. High	11/3/97	$519,736.00
Holyoke	Kelly	6/12/97	$718,217.00
Holyoke	Lawrence Elem.	6/12/97	$438,437.00
Holyoke	Lawrence Elem.	11/3/97	$417,079.00
Holyoke	Lt. Clayre Sullivan	8/23/96	$530,482.00
Holyoke	Lt. Clayre Sullivan	6/12/97	$779,535.00
Lincoln-Sudbury	Regional High	5/24/93	$1,631,532.00
Longmeadow	Glenbrook Middle	6/11/98	$515,200.00
Longmeadow	Longmeadow High	2/16/93	$228,746.00
Longmeadow	Williams Middle	1/17/94	$285,081.00
Lynnfield	Middle	5/21/97	$155,000.00
Lynnfield	Summer Street	5/12/98	$232,500.00
Manchester	Memorial	6/24/94	$395,869.00
Marblehead	Middle	5/18/93	$213,672.00
Milton	Collicot	6/3/93	$168,106.00
Milton	Cunningham	6/3/93	$169,156.00
Montachusett Voc-Tech	Voc-Tech	4/11/94	$235,623.00
Montachusett Voc-Tech	Voc-Tech	3/22/96	$244,412.00
Nashoba Valley Tech	Tech HS	10/26/93	$88,140.00
Nashoba Valley Tech	Tech HS	10/17/97	$184,923.00
Needham	Hillside Elementary	6/16/98	$199,520.00
Needham	Needham High	6/26/96	$249,806.00
Needham	Needham High	6/16/98	$86,314.00
Needham	Newman Elementary	5/24/95	$458,733.00
Needham	Newman Elementary	6/26/96	$275,500.00
Needham	Newman Elementary	6/13/97	$758,677.00
Needham	Newman Elementary	3/5/98	$2,095,430.00
Needham	Newman School Reopen	5/24/98	$186,180.00
Needham	Polariod Middle	6/26/96	$99,922.00
Needham	William Mitchell	6/13/97	$159,783.00
Northampton	Smith Voc	5/20/94	$186,342.00
Northampton	Smith Voc	5/27/97	$711,200.00
Northbridge	Edward Balmer	3/21/94	$273,430.00
Northern Berkshire Voc	Charles Mccann Voc	7/17/97	$1,115,201.00
Norwell	Grace Farrar Cole	8/4/92	$165,750.00
Norwell	Grace Farrar Cole	11/14/95	$140,799.00
Norwell	Norwell High	11/14/95	$376,140.00
Norwell	Norwell Jr. High	11/14/95	$340,550.00
Norwood	Cornelius Callahan	2/7/95	$157,437.00
Norwood	John Oldham	2/7/95	$212,517.00
Norwood	Norwood Jr. High	2/7/95	$522,150.00
Quincy	High School	12/1/95	$386,768.00
Randolph	Charles DeVIne	4/29/98	$146,769.00
Randolph	Elizabeth Lyons	5/17/94	$182,058.00
Randolph	Elizabeth Lyons	4/29/98	$152,950.00

Randolph	Margaret Donovan	4/29/98	$283,568.00
Randolph	North Junior High	5/17/94	$549,673.00
Randolph	Randolph High	11/5/92	$248,292.00
Randolph	Randolph High	7/19/93	$206,233.00
Randolph	Randolph High	4/29/98	$314,037.00
Randolph	Tower Hill	7/19/93	$151,889.00
Randolph	Tower Hill	4/29/98	$434,266.00
Reading	Reading Memorial High	8/30/94	$299,244.00
Revere	Lincoln	7/17/97	$439,826.00
Revere	Lincoln	10/31/97	$87,834.00
Revere	Augustine Whelan	7/17/97	$1,032,747.00
Revere	Augustine Whelan	10/30/97	$481,749.00
Revere	Beachmont	10/31/97	$126,970.00
Revere	James Garfield	10/31/97	$119,657.00
Revere	Paul Revere	10/31/97	$196,101.00
Revere	High School	7/17/97	$261,776.00
Shrewsbury	Middle	8/13/93	$128,000.00
Shrewsbury	Senior High	8/13/96	$345,600.00
Silver Lake	Regional Jr. high	3/13/95	$576,763.00
Silver Lake	Reg. Kingston	3/13/95	$389,012.00
Somerset	Chace Street	4/25/96	$69,117.00
Somerset	Somerset High	5/29/97	$100,913.00
Somerset	Somerset High	6/6/97	$204,650.00
Somerset	Wilbur	7/18/94	$75,268.00
South Hadley	South Hadley High	7/17/97	$489,900.00
Southbridge	High School	3/16/95	$206,975.00
Topsfield	Proctor Elementary	10/21/93	$191,943.00
Tri County	Reg. Voc.	4/10/95	$2,392,986.00
Tyngsborough	Lakeview	6/9/98	$177,937.00
Upper Cape Cod Voc	Voc Tech	6/30/97	$751,298.00
Wakefield	Junior High	1/13/97	$92,918.00
Ware	High School	3/30/94	$409,640.00
Webster	Park Avenue Elementary	5/5/95	$214,488.00
Webster	Middle	7/15/94	$188,860.00
Winchester	Lincoln	3/20/98	$816,035.00
Winchester	Muraco	7/25/97	$449,552.00
Winchester	Vinson	7/25/97	$244,322.00
Woburn	Daniel Joyce	11/14/94	$168,330.00
Woburn	Daniel Hurd	11/14/94	$84,320.00
Woburn	Altavesta	11/14/94	$107,570.00
Woburn	High School	11/14/94	$435,860.00
Woburn	High School	11/14/94	$132,559.00
142 total projects			**$58,465,972.00**

Community	Regional District	Community	Regional District
Acton	Acton-Boxborough	Montague	Gill-Montague
Adams	Adams-Cheshire	Monterey	Southern Berkshire
Alford	Southern Berkshire	Montgomery	Gateway
Amherst	Amherst-Pelham	New Braintree	Quabbin
Ashburnham	Ashburnham-Westminister	New Marlborough	Southern Berkshire
Ashby	North Middlesex	New Salem	New Salem-Wendell/Raplh C. Marr
Ashfield	Mohawk Trail	Newbury	Triton
Athol	Athol-Royalston	Norfolk	King Phillip
Barre	Quabbin	Northborough	Northboro-Southboro
Becket	Central Berkshire	Northfield	Pioneer Valley
Berlin	Berlin-Boylston	Oak Bluffs	Marthas Vineyard
Bernardstorm	Pioneer Valley	Oakham	Quabbin
Blackstone	Blackstone-Millville	Orange	Raplh C. Marr
Blandford	Gateway	Orleans	Nauset
Bolton	Nashoba	Otis	Farmington River
Boxborough	Acton-Boxborough	Paxton	Wachusett
Boxford	Masconomet	Pelham	Amherst-Pelham
Boylston	Berlin-Boylston	Pembroke	Silver Lake
Brewster	Nauset	Pepperell	North Middlesex
Bridgewater	Bridgewater-Raynham	Peru	Central Berkshire
Brimfield	Tantasqua	Petersham	Raplh C. Marr
Brookfield	Tantasqua	Phillipston	Narragansett
Buckland	Mohawk Trail	Plainfield	Mohawk Trail
Carlisle	Concord-Carlisle	Plianville	King Phillip
Charelmont	Hawlemont/Mohawk Trail	Plympton	Silver Lake
Charlton	Dudley-Charlton	Princeton	Wachusett
Cheshire	Adams-Cheshire	Raynham	Bridgewater-Raynham
Chesterfield	Chesterfield-Goshen/Hampshire	Rehoboth	Dighton-Rehoboth
Chilmark	Marthas Vineyard/Up-Island	Rochester	Old Rochester
Colrain	Mohawk Trail	Rowley	Triton
Concord	Concord-Carlisle	Royalston	Athol-Royalston
Conway	Frontier	Russell	Gateway
Cummington	Central Berkshire	Rutland	Wachusett
Dalton	Central Berkshire	Salisbury	Triton
Deerfield	Frontier	Sandisfield	Farmington River
Dennis	Dennis-Yarmouth	Sheffield	Southern Berkshire
Dighton	Dighton-Rehoboth	Shelburne	Mohawk Trail
Dover	Dover-Sherborn	Sherborn	Dover-Sherborn
Dudley	Dudley-Charlton	Shutesbury	Amherst-Pelham
Dunstable	Groton-Dunstable	Southampton	Hampshire
East Brookfield	Spencer Brookfield	Southborough	Northboro-Southboro
Eastham	Nauset	Southwick	Southwick-Tolland
Edgartown	Marthas Vineyard	Spencer	Spencer Brookfield
Egremont	Southern Berkshire	Sterling	Wachusett
Freetown	Freetown-Lakeville	Stockbridge	Berkshire Hills
Gay Head	Marthas Vineyard/Up-Island	Stow	Nashoba
Gill	Gill-Montague	Sturbridge	Tantasqua
Goshen	Chesterfield-Goshen/Hampshire	Sudbury	Lincoln-Sudbury
Great Barrington	Berkshire Hills	Sunderland	Frontier
Groton	Groton-Dunstable	Templeton	Narragansett

Groveland	Pentucket	Tisbury	Marthas Vineyard
Halifax	Silver Lake	Tolland	Southwick-Tolland
Hamilton	Hamilton-Wenham	Topsfield	Masconomet
Hampden	Hampden-Wilbraham	Townsend	North Middlesex
Hanson	Whitman-Hanson	Upton	Mendon-Upton
Hardwick	Quabbin	Wales	Tantasqua
Hawley	Hawlemont/Mohawk Trail	Warren	Quaboag
Heath	Mohawk Trail	Warwick	Pioneer Valley
Hinsdale	Central Berkshire	Washignton	Central Berkshire
Holden	Wachusett	Wellfleet	Nauset
Holland	Tantasqua	Wendell	New Salem-Wendell/Raplh C. Marr
Hubbardston	Quabbin	Wenham	Hamilton-Wenham
Huntington	Gateway	West Brookfield	Quaboag
Kingston	Silver Lake	West Newbury	Pentucket
Lakeville	Freetown-Lakeville	West Stockbrudge	Berkshire Hills
Lancaster	Nashoba	West Tisbury	Marthas Vineyard/Up-Island
Lanesborough	Mount Greylock	Westhampton	Hampshire
Leverett	Amherst-Pelham	Westminister	Ashburnham-Westminister
Leyden	Pioneer Valley	Whately	Frontier
Lincoln	Lincoln-Sudbury	Whitman	Whitman-Hanson
Marion	Old Rochester	Wilbraham	Hampden-Wilbraham
Mattapoisett	Old Rochester	Williamsburg	Hampshire
Mendon	Mendon-Upton	Williamstown	Mount Greylock
Merrimac	Pentucket	Windsor	Central Berkshire
Middlefield	Gateway	Worthington	Gateway
Middleton	Masconomet	Wrentham	King Phillip
Millville	Blackstone-Millville	Yarmouth	Dennis-Yarmouth

TAX LEVY

The following communities reached a tax levy of 2.0% or greater of their full property value in FY99.

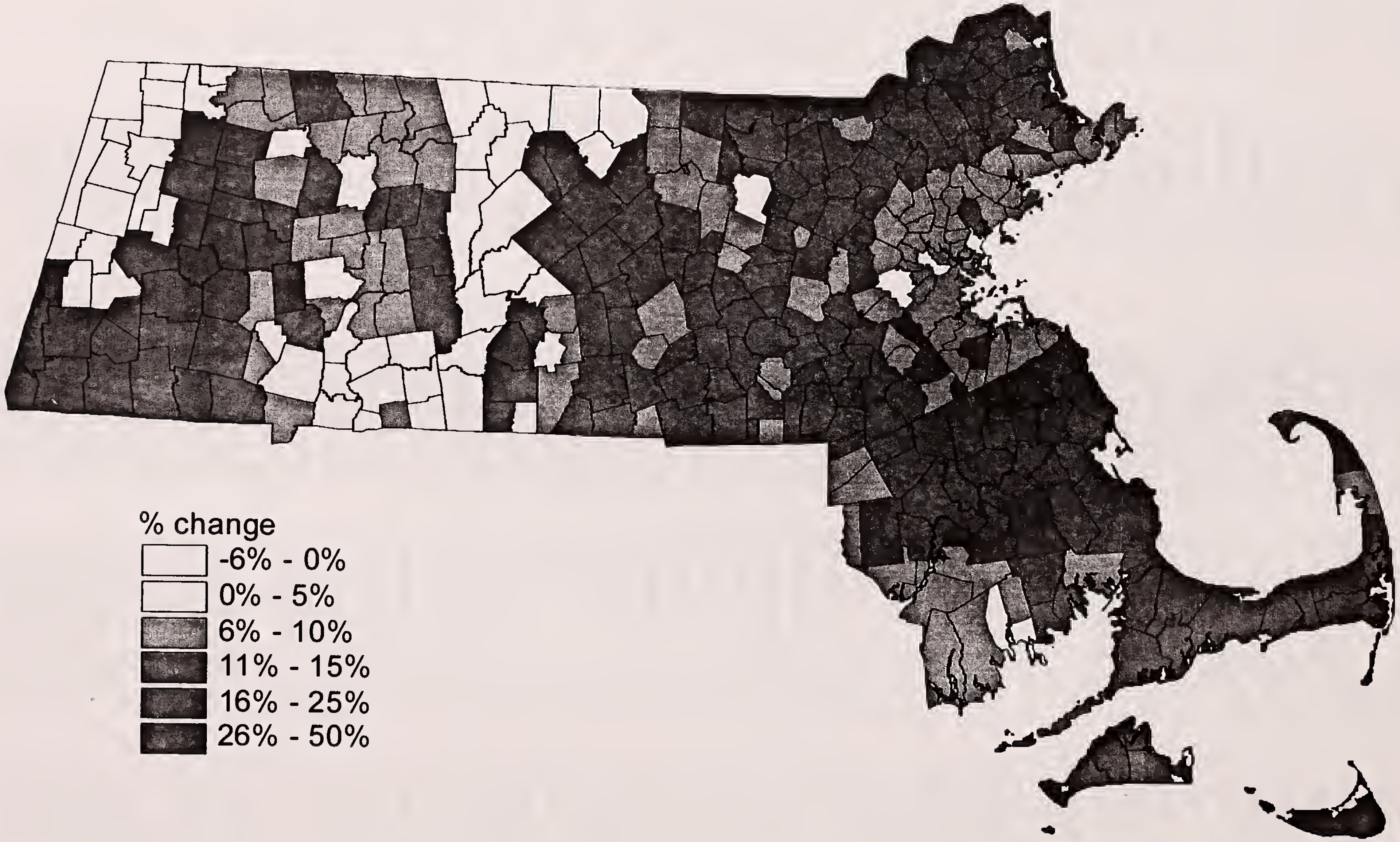
Community	Tax Levy as Percent of Full Value
AMHERST	2.00
MARLBOROUGH	2.02
WHITMAN	2.02
SHARON	2.03
CHARLEMONT	2.05
GREENFIELD	2.05
MAYNARD	2.05
SALEM	2.05
CHESTERFIELD	2.09
LEVERETT	2.10
WENDELL	2.10
HOLBROOK	2.12
SHUTESBURY	2.13
CARVER	2.14
FRAMINGHAM	2.21
WEST SPRINGFI	2.21
HOLYOKE	2.25
BOSTON	2.27
EVERETT	2.27
LOWELL	2.28
FLORIDA	2.29
WORCESTER	2.40
LAWRENCE	2.45
SPRINGFIELD	2.50

Number of SBA Projects 1971 to 1999 Including Waitlist Projects

Abington	2
Adams	1
Agawam	6
Amesbury	2
Amherst	1
Andover	3
Arlington	8
Ashburnham	1
Ashland	4
Athol	4
Attleboro	6
Auburn	1
Barnstable	3
Barre	3
Bedford	1
Belchertown	2
Bellingham	3
Belmont	1
Berkley	3
Berlin	1
Bernardston	1
Beverly	6
Billerica	6
Bolton	2
Boston	135
Bourne	1
Boxborough	2
Boxford	3
Boylston	1
Braintree	2
Brewster	1
Bridgewater	2
Brimfield	1
Brockton	29
Brookfield	1
Brookline	4
Burlington	1
Byfield	1
Cambridge	5
Canton	5
Carlisle	1
Carver	4
Chatham	2
Chelmsford	1
Chelsea	5
Chicopee	1
Clarksburg	2
Clinton	2
Cohasset	1
Hanover	1
Hanson	2
Harwich	5
Hatfield	1
Haverhill	6
Heath	1
Hingham	3
Holden	2
Holliston	2
Holyoke	5
Hopedale	2
Hopkinton	5
Hudson	7
Hull	1
Huntington	6
Ipswich	3
Kingston	3
Lakeville	1
Lanesborough	2
Lawrence	18
Lee	3
Leicester	1
Lenox	5
Leominster	4
Lexington	1
Lincoln	1
Littleton	2
Longmeadow	8
Lowell	21
Ludlow	2
Lynn	23
Lynnfield	1
Malden	8
Mansfield	4
Marblehead	2
Marlborough	2
Marshfield	3
Martha's Vineyard	3
Mashpee	2
Medfield	1
Medway	3
Melrose	1
Merrimac	2
Methuen	12
Middleborough	3
Middleton	2
Milford	2
Millis	2
Milton	1
Plainville	2
Plymouth	2
Princeton	4
Quaboag	1
Quincy	7
Randolph	5
Reading	6
Revere	1
Rowley	1
Rutland	3
Salem	5
Sandwich	3
Saugus	1
Scituate	5
Seekonk	3
Sharon	3
Sheffield	3
Shellburne Falls	7
Shrewsbury	1
Shutesbury	1
Somerset	1
Somerville	17
South Hadley	2
Southampton	1
Southborough	1
Southwick	2
Spencer	1
Springfiled	51
Stockbridge	7
Stoneham	4
Stoughton	1
Stow	1
Sturbridge	1
Sudbury	6
Sutton	1
Swampscott	4
Swansea	3
Taunton	6
Templeton	1
Tewksbury	3
Tisbury	1
Topsfield	6
Townsend	3
Truro	1
Tyngsborough	1
Upton	5
Uxbridge	3
Wakefield	7
Walpole	2

Concord	3
Conway	1
Dalton	4
Danvers	3
Deerfield	2
Dighton	1
Dover	2
Dracut	5
Dudley	7
Duxbury	1
East Bridgewater	1
East Longmeadow	4
Easthampton	6
Easton	1
Everett	5
Fairhaven	3
Fall River	6
Falmouth	2
Fitchburg	12
Florida	1
Foxborough	1
Framingham	4
Franklin	2
Gardner	1
Georgetown	3
Gloucester	8
Grafton	1
Greenfield	7
Groton	4
Groveland	1
Hadley	7
Halifax	1
Hamilton	5
Monson	2
Nantucket	1
Narragansett	5
Natick	5
Needham	3
New Bedford	1
Newbury	1
Newburyport	2
Newton	12
Norfolk	2
North Adams	6
North Andover	3
North Attleboro	7
North Dighton	10
North Reading	5
Northampton	11
Northborough	6
Northfield	8
Norton	2
Norwell	1
Norwood	3
Oak Bluffs	1
Orange	3
Orleans	2
Otis	2
Oxford	7
Palmer	2
Paxton	1
Peabody	1
Pembroke	1
Petersham	2
Phillipston	1
Pittsfield	21
Ware	2
Wareham	1
Warren	2
Warwick	1
Watertown	4
Wayland	2
Wellesley	7
Wellfleet	1
West Boylston	2
West Bridgewater	3
West Newbury	2
West Springfield	1
West Tisbury	1
Westborough	3
Westfield	38
Westford	6
Westhampton	2
Westminister	4
Weston	3
Westport	1
Westwood	8
Whately	1
Whitman	4
Wilbraham	2
Williamstown	1
Wilmington	2
Winchendon	1
Winchester	1
Winthrop	6
Worcester	27
Wrentham	1
Yarmouth	5

Change in Employment 1991 - 1998



APPENDIX F

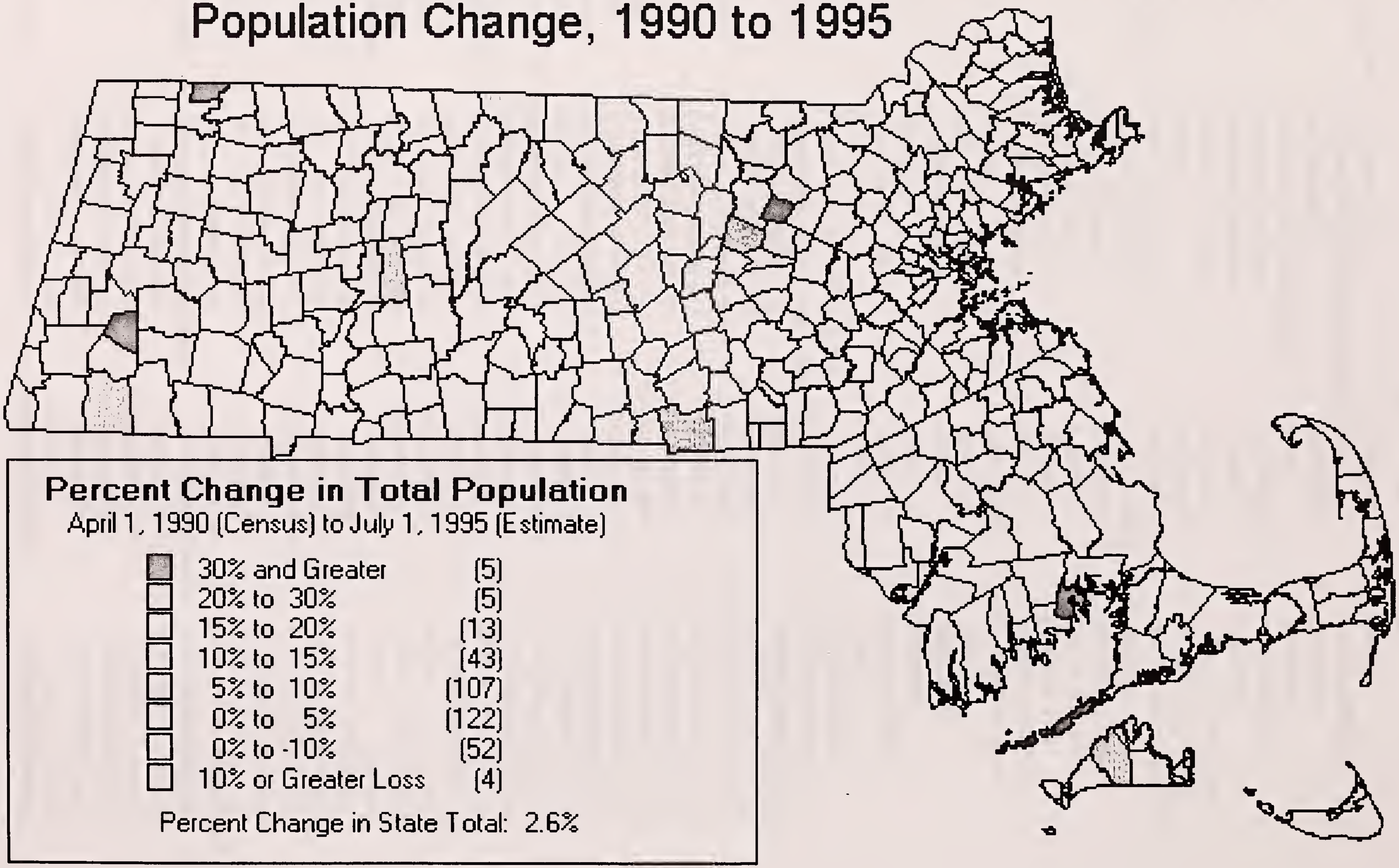
Employment Growth From 1991 - 1998

Abington	18.68%
Acton	15.38%
Acushnet	6.84%
Adams	-2.47%
Agawam	1.81%
Alford	17.46%
Amesbury	14.50%
Amherst	9.20%
Andover	14.61%
Arlington	7.58%
Ashburnham	3.04%
Ashby	10.39%
Ashfield	7.44%
Ashland	14.81%
Athol	-3.74%
Attleboro	9.96%
Auburn	9.19%
Avon	13.36%
Ayer	14.89%
Barnstable	14.16%
Barre	13.86%
Becket	22.13%
Bedford	11.85%
Belchertown	12.09%
Bellingham	12.48%
Belmont	6.95%
Berkley	25.18%
Berlin	10.47%
Bernardston	7.50%
Beverly	9.01%
Billerica	12.60%
Blackstone	8.92%
Blandford	19.65%
Bolton	8.99%
Boston	7.76%
Bourne	17.73%
Boxborough	26.57%
Boxford	46.82%
Boylston	17.33%
Braintree	10.91%
Brewster	14.61%
Bridgewater	23.88%
Brimfield	16.28%
Brockton	14.28%
Brookfield	2.87%
Brookline	9.59%
Buckland	4.84%
Burlington	8.97%
Cambridge	5.01%
Halifax	15.91%
Hamilton	10.26%
Hampden	5.01%
Hancock	-3.21%
Hanover	14.11%
Hanson	16.08%
Hardwick	3.54%
Harvard	-1.00%
Harwich	16.24%
Hatfield	6.87%
Haverhill	14.40%
Hawley	14.49%
Heath	8.33%
Hingham	10.39%
Hinsdale	-3.37%
Holbrook	9.23%
Holden	11.76%
Holland	-5.74%
Holliston	11.49%
Holyoke	1.67%
Hopedale	7.60%
Hopkinton	21.70%
Hubbardston	12.01%
Hudson	10.97%
Hull	8.21%
Huntington	9.49%
Ipswich	11.74%
Kingston	22.90%
Lakeville	19.37%
Lancaster	7.23%
Lanesborough	2.13%
Lawrence	11.09%
Lee	1.71%
Leicester	13.28%
Lenox	-0.95%
Leominster	9.54%
Leverett	10.69%
Lexington	9.87%
Leyden	9.55%
Lincoln	11.11%
Littleton	16.88%
Longmeadow	0.83%
Lowell	9.30%
Ludlow	3.45%
Lunenburg	6.79%
Lynn	8.93%
Lynnfield	10.22%
Malden	6.51%
Manchester	8.42%
Phillipston	10.82%
Pittsfield	-1.82%
Plainfield	30.68%
Plainville	12.27%
Plymouth	11.97%
Plympton	17.44%
Princeton	13.86%
Provincetown	6.44%
Quincy	9.39%
Randolph	8.98%
Raynham	18.67%
Reading	10.02%
Rehoboth	15.72%
Revere	4.89%
Richmond	-2.55%
Rochester	16.09%
Rockland	15.58%
Rockport	8.84%
Rowe	8.16%
Rowley	21.04%
Royalston	-2.20%
Russell	5.83%
Rutland	12.94%
Salem	8.38%
Salisbury	10.63%
Sandisfield	11.83%
Sandwich	19.79%
Saugus	10.82%
Savoy	12.08%
Scituate	11.16%
Seekonk	10.45%
Sharon	16.11%
Sheffield	16.11%
Shelburne	7.88%
Sherborn	11.20%
Shirley	30.89%
Shrewsbury	21.88%
Shutesbury	10.89%
Somerset	8.79%
Somerville	9.72%
South Hadley	7.43%
Southampton	11.96%
Southborough	19.88%
Southbridge	11.02%
Southwick	7.18%
Spencer	14.50%
Springfield	1.43%
Sterling	15.08%
Stockbridge	1.44%

Canton	16.29%
Carlisle	14.12%
Carver	13.28%
Charlemont	8.87%
Charlton	16.98%
Chatham	15.66%
Chelmsford	12.67%
Chelsea	8.18%
Cheshire	2.42%
Chester	18.75%
Chesterfield	26.89%
Chicopee	1.14%
Chilmark	16.58%
Clarksburg	1.42%
Clinton	11.01%
Cohasset	6.72%
Colrain	11.71%
Concord	10.91%
Conway	12.76%
Cummington	23.61%
Dalton	-1.11%
Danvers	8.58%
Dartmouth	8.44%
Dedham	48.40%
Deerfield	5.15%
Dennis	13.54%
Dighton	11.40%
Douglas	19.92%
Dover	16.43%
Dracut	16.67%
Dudley	10.60%
Dunstable	21.10%
Duxbury	16.29%
East Bridgewater	19.32%
East Brookfield	5.72%
East Longmeadow	7.54%
Eastham	15.94%
Easthampton	6.73%
Easton	18.01%
Edgartown	22.56%
Egremont	16.54%
Erving	10.38%
Essex	11.74%
Everett	7.68%
Fairhaven	3.75%
Fall River	7.17%
Falmouth	18.44%
Fitchburg	6.20%
Florida	3.23%
Foxborough	18.10%
Framingham	8.52%
Franklin	25.31%
Mansfield	18.29%
Marblehead	6.75%
Marion	12.19%
Marlborough	11.34%
Marshfield	13.00%
Mashpee	14.40%
Mattapoisett	11.56%
Maynard	9.37%
Medfield	16.17%
Medford	6.16%
Medway	20.27%
Melrose	6.43%
Mendon	13.45%
Merrimac	18.57%
Methuen	12.05%
Middleborough	19.98%
Middlefield	36.13%
Middleton	21.45%
Milford	8.38%
Millbury	11.02%
Millis	11.12%
Millville	15.50%
Milton	8.96%
Monroe	4.48%
Monson	4.82%
Montague	7.26%
Monterey	14.59%
Montgomery	4.93%
Mount Washington	25.42%
Nahant	8.08%
Nantucket LMA	33.11%
Natick	11.53%
Needham	10.15%
New Ashford	3.70%
New Bedford	3.68%
New Braintree	2.18%
New Marlborough	17.22%
New Salem	-2.19%
Newbury	12.18%
Newburyport	9.30%
Newton	4.45%
Norfolk	16.05%
North Adams	1.47%
North Andover	14.72%
North Attleborough	9.71%
North Brookfield	9.69%
North Reading	15.33%
Northampton	3.69%
Northborough	17.61%
Northbridge	15.17%
Northfield	5.76%
Norton	14.45%
Stoneham	9.03%
Stoughton	10.44%
Stow	16.93%
Sturbridge	10.34%
Sudbury	12.86%
Sunderland	11.03%
Sutton	14.62%
Swampscott	8.13%
Swansea	9.09%
Taunton	11.88%
Templeton	12.53%
Tewksbury	13.09%
Tisbury	13.93%
Tolland	25.42%
Topsfield	15.20%
Townsend	14.44%
Truro	11.20%
Tyngsborough	21.15%
Tyringham	14.93%
Upton	19.66%
Uxbridge	14.72%
Wakefield	7.26%
Wales	10.94%
Walpole	17.46%
Waltham	9.27%
Ware	4.39%
Wareham	8.97%
Warren	18.40%
Warwick	2.93%
Washington	22.76%
Watertown	7.18%
Wayland	8.77%
Webster	9.46%
Wellesley	9.66%
Wellfleet	9.59%
Wendell	9.80%
Wenham	13.81%
West Boylston	12.28%
West Bridgewater	17.17%
West Brookfield	12.36%
West Newbury	20.76%
West Springfield	0.61%
West Stockbridge	14.85%
West Tisbury	35.04%
Westborough	15.58%
Westfield	2.88%
Westford	21.54%
Westhampton	30.47%
Westminster	11.11%
Weston	12.32%
Westport	8.85%
Westwood	9.01%

Freetown	8.88%
Gardner	4.80%
Gay Head	30.00%
Georgetown	18.68%
Gill	6.15%
Gloucester	10.19%
Goshen	23.31%
Gosnold	7.06%
Grafton	11.69%
Granby	7.78%
Granville	19.35%
Great Barrington	16.62%
Greenfield	6.10%
Groton	24.06%
Groveland	15.59%
Hadley	8.26%
Norwell	11.90%
Norwood	8.26%
Oak Bluffs	19.21%
Oakham	14.48%
Orange	1.20%
Orleans	15.60%
Otis	13.41%
Oxford	12.63%
Palmer	3.30%
Paxton	11.06%
Peabody	10.20%
Pelham	14.91%
Pembroke	17.02%
Pepperell	14.04%
Peru	18.87%
Petersham	2.53%
Weymouth	9.21%
Whately	9.48%
Whitman	15.55%
Williamsburg	7.66%
Williamstown	4.91%
Wilmington	19.05%
Winchendon	4.41%
Winchester	8.45%
Windsor	18.75%
Winthrop	4.37%
Woburn	9.21%
Worcester	9.41%
Worthington	26.83%
Wrentham	16.07%
Yarmouth	13.20%

Massachusetts Cities & Towns
Population Change, 1990 to 1995


Percent Change in Total Population
April 1, 1990 (Census) to July 1, 1995 (Estimate)
▨ 30% and Greater (5)
☐ 20% to 30% (5)
☐ 15% to 20% (13)
☐ 10% to 15% (43)
☐ 5% to 10% (107)
☐ 0% to 5% (122)
☐ 0% to -10% (52)
☐ 10% or Greater Loss (4)
Percent Change in State Total: 2.6%

Sources: 1990 Census of Population & Housing, MISER 1995 Population Estimates
Prepared August 1998

Prepared by MISER
University of Massachusetts, Amherst

Community	Regional District
Acton	Acton-Boxborough
Adams	Adams-Cheshire
Alford	Southern Berkshire
Amherst	Amherst-Pelham
Ashburnham	Ashburnham-Westminister
Ashby	North Middlesex
Ashfield	Mohawk Trail
Athol	Athol-Royalston
Barre	Quabbin
Becket	Central Berkshire
Berlin	Berlin-Boylston
Bernardstorm	Pioneer Valley
Blackstone	Blackstone-Millville
Blandford	Gateway
Bolton	Nashoba
Boxborough	Acton-Boxborough
Boxford	Masconomet
Boylston	Berlin-Boylston
Brewster	Nauset
Bridgewater	Bridgewater-Raynham
Brimfield	Tantasqua
Brookfield	Tantasqua
Buckland	Mohawk Trail
Carlisle	Concord-Carlisle
Charelmont	Hawlemont/Mohawk Trail
Charlton	Dudley-Charlton
Cheshire	Adams-Cheshire
Chesterfield	Chesterfield-Goshen/Hampshire
Chilmark	Martha's Vineyard/Up-Island
Colrain	Mohawk Trail
Concord	Concord-Carlisle
Conway	Frontier
Cummington	Central Berkshire
Dalton	Central Berkshire
Deerfield	Frontier
Dennis	Dennis-Yarmouth
Dighton	Dighton-Rehoboth
Dover	Dover-Sherborn
Dudley	Dudley-Charlton
Dunstable	Groton-Dunstable
East Brookfield	Spencer Brookfield
Eastham	Nauset
Edgartown	Martha's Vineyard
Egremont	Southern Berkshire
Freetown	Freetown-Lakeville
Gay Head	Martha's Vineyard/Up-Island
Gill	Gill-Montague
Goshen	Chesterfield-Goshen/Hampshire
Great Barrington	Berkshire Hills
Montague	Gill-Montague
Monterey	Southern Berkshire
Montgomery	Gateway
New Braintree	Quabbin
New Marlborough	Southern Berkshire
New Salem	New Salem-Wendell/Ralph C. Marr
Newbury	Triton
Norfolk	King Phillip
Northborough	Northboro-Southboro
Northfield	Pioneer Valley
Oak Bluffs	Martha's Vineyard
Oakham	Quabbin
Orange	Ralph C. Marr
Orleans	Nauset
Otis	Farmington River
Paxton	Wachusett
Pelham	Amherst-Pelham
Pembroke	Silver Lake
Pepperell	North Middlesex
Peru	Central Berkshire
Petersham	Ralph C. Marr
Phillipston	Narragansett
Plainfield	Mohawk Trail
Plainville	King Phillip
Plympton	Silver Lake
Princeton	Wachusett
Raynham	Bridgewater-Raynham
Rehoboth	Dighton-Rehoboth
Rochester	Old Rochester
Rowley	Triton
Royalston	Athol-Royalston
Russell	Gateway
Rutland	Wachusett
Salisbury	Triton
Sandisfield	Farmington River
Sheffield	Southern Berkshire
Shelburne	Mohawk Trail
Sherborn	Dover-Sherborn
Shutesbury	Amherst-Pelham
Southampton	Hampshire
Southborough	Northboro-Southboro
Southwick	Southwick-Tolland
Spencer	Spencer Brookfield
Sterling	Wachusett
Stockbridge	Berkshire Hills
Stow	Nashoba
Sturbridge	Tantasqua
Sudbury	Lincoln-Sudbury
Sunderland	Frontier

Community	Regional District
Groton	Groton-Dunstable
Groveland	Pentucket
Halifax	Silver Lake
Hamilton	Hamilton-Wenham
Hampden	Hampden-Wilbraham
Hanson	Whitman-Hanson
Hardwick	Quabbin
Hawley	Hawlemont/Mohawk Trail
Heath	Mohawk Trail
Hinsdale	Central Berkshire
Holden	Wachusett
Holland	Tantasqua
Hubbardston	Quabbin
Huntington	Gateway
Kingston	Silver Lake
Lakeville	Freetown-Lakeville
Lancaster	Nashoba
Lanesborough	Mount Greylock
Leverett	Amherst-Pelham
Leyden	Pioneer Valley
Lincoln	Lincoln-Sudbury
Marion	Old Rochester
Mattapoisett	Old Rochester
Mendon	Mendon-Upton
Merrimac	Pentucket
Middlefield	Gateway
Middleton	Masconomet
Millville	Blackstone-Millville
Templeton	Narragansett
Tisbury	Martha's Vineyard
Tolland	Southwick-Tolland
Topsfield	Masconomet
Townsend	North Middlesex
Upton	Mendon-Upton
Wales	Tantasqua
Warren	Quaboag
Warwick	Pioneer Valley
Washington	Central Berkshire
Wellfleet	Nauset
Wendell	New Salem-Wendell/Ralph C. Marr
Wenham	Hamilton-Wenham
West Brookfield	Quaboag
West Newbury	Pentucket
West Stockbridge	Berkshire Hills
West Tisbury	Martha's Vineyard/Up-Island
Westhampton	Hampshire
Westminister	Ashburnham-Westminister
Whately	Frontier
Whitman	Whitman-Hanson
Wilbraham	Hampden-Wilbraham
Williamsburg	Hampshire
Williamstown	Mount Greylock
Windsor	Central Berkshire
Worthington	Gateway
Wrentham	King Phillip
Yarmouth	Dennis-Yarmouth

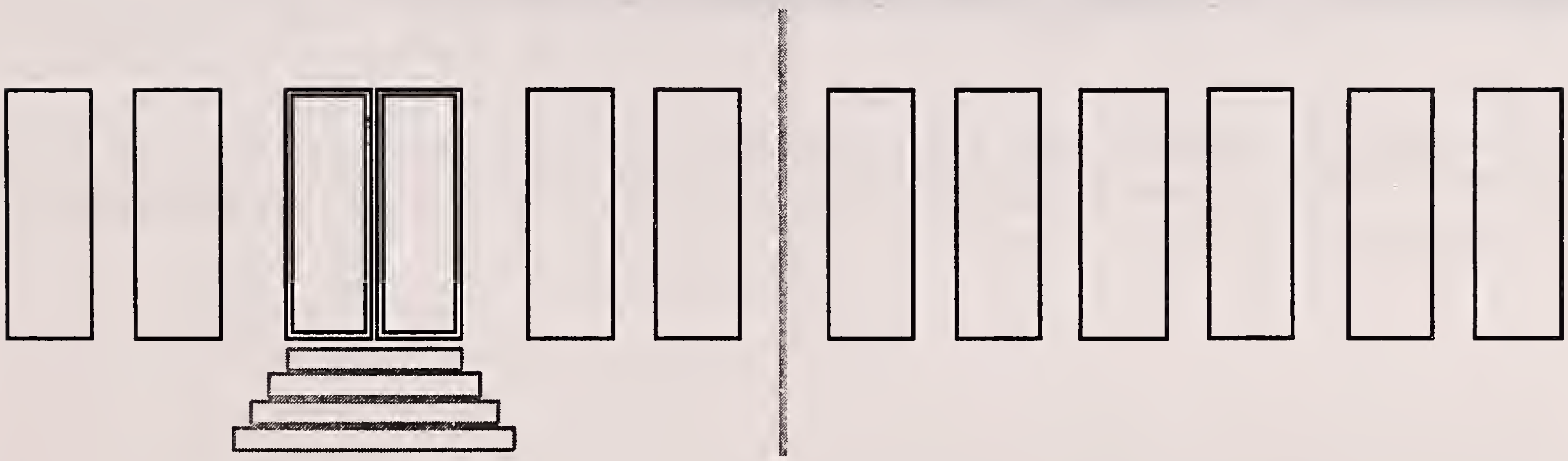
```
 .... SIMPLE INQUIRY .....    15:11:52  04-08-99 Page 1


Screen:PROJ2.SCR   File:PROJECTS   Record:3445
_1___5___10___15___20___25___30___35___40___45___50___55___60___65___70___75__79_
|                                                                               |
|               --- Update Projects Screen 2 ---                                |
|                                                                               |
|Project #: 3445          LEA Name: BRIDGEWATER                                |
|School Code: 042NEW   School Name:                                            |
|                                                                               |
|Est. Apprv. Const. Cost:       $12,100,000  Amt. of Bond Issued:   $12,100,000|
|Est. Apprv. Int. Cost:          $6,666,266  Est. Interest Rate:           5.25|
|Est. Total Apprv. Cost:        $18,766,266                                    |
|% Int. Included in Cost:            100.00  Altern. Funding Total:          $0|
|Altern. Funding Flag (Y/N):              N  Est. Grant %:                 0.00|
|Est. Grant % for Const. Cost:        73.00  Altern. Funding Grant:          $0|
|Est. Grant % for Int. Cost:          73.00                                    |
|Est. Grant for Const.:          $8,833,000  Length of Payback Period:       20|
|Est. Grant for Int.:            $4,866,374  FY of 1st Annual Payment:         |
|Total Est. Grant:              $13,699,374  Unequal Payment Flag (Y/N):      N|
|Stabilization Fund Payment:             $0  Est. Annual Payment:      $684,969|
|Other Adjustments:                      $0                                    |
|Total Est. Adjust. Grant:      $13,699,374  Anticipated Audit Date:   ________|
|Revote Date:                      ________                                    |
|Revote Amount:                 ___________                                    |
|Rescind Date:                     ________                                    |
|Rescind Amount:                ___________                                    |
|Comments:  NEW 1300 PUPIL ELEMENTARY CAMPUS                                   |
|                                                                               |
|_1___5___10___15___20___25___30___35___40___45___50___55___60___65___70___75__79_|
```

APPENDIX J

Massachusetts
"We help children learn."
Department of Education

SCHOOL BUILDING ASSISTANCE

CAPITAL GRANT APPLICATION



Massachusetts
Department of Education

SCHOOL BUILDING ASSISTANCE SERVICES

CAPITAL GRANT APPLICATION

The Capital Grant Application Package includes the following documents listed below. Please complete each form as requested and submit all required documentation.

Document Number	Form/Document Title
645-1	SBA Application Checklist for Capital Projects
645-3	Rationale for Capital Construction
645-4	Inventory of Existing School Space
645-5E	Elementary Educational Specifications
645-5M/S	Middle-Secondary Educational Specifications
645-9	Form F - Estimated Plan for Financing
645-10	Local and Other State Agency Approvals
645-11	Certification of Architects
645-12	Preventive Maintenance Plan
645-13	Cost Effective Design
MEPA	MEPA Review Thresholds
DCPO	Contractor Certification Evaluation Questionnaire
603CMR:38.00	School Building Assistance Regulations

Lo

The Educational Specifications incorporate programmatic needs, space needs and the space computation information. Other forms reflect the most recent amendments to Chapter 645 of the Acts of 1948 and the School Building Assistance Regulations promulgated pursuant to the act. Programmatic and cost standards in the regulations must be reviewed and updated annually. During this cycle, the Department also revises the regulations to reflect any new SBA amendments enacted by the Legislature during the past fiscal year.

645 - 1 Date: ___/___/___

Commonwealth of Massachusetts
DEPARTMENT OF EDUCATION
School Building Assistance

APPENDIX J

Comprehensive Capital School Construction Grant Application/Checklist

State Senator/District ______________________________

State Representative ______________________________

School District/Code ______________________________

School Building/Code ______________________________

LEA Contact/Title ______________________________

Address ______________________________

______________________________, MA Zip ______________

Telephone (   ) ______________________________

Architect ______________________________

Project Information

Type of School: Elementary ____ Middle ____ Secondary _____ Vocational _____

Type of Project: New ____ Addition/Renovation ____ Renovation ____ Grades _____

This Checklist is to be used in conjunction with Chapter 645 Regulations and the application forms package attached. All items must be filed with the Department of Education in the following order. If previously submitted, please put date of submission to the Department. **All application materials must be submitted by June 1.**

LEA and ARCHITECTURAL REQUIREMENTS (Please check all documentation submitted to DOE)
Building Needs Conference: (deadline: January 1 for June 1 submittal)

1. __ Copy of the Long Range Educational Plan with VOTE of the School Committee
2. __ Rationale for Capital Construction (645-3)
3. __ Inventories of Existing School Space (645-4)
4. __ Enrollment Projections (10 years)
5. Appointment of School Building Committee (Town Meeting or other relevant VOTE)

---

6. __ Educational Specifications (Ed. Specs.) & Preliminary Schematic Drawings approved by the School Committee (VOTE) **(deadline: March 1)**
7. __ School Committee VOTE to approve proposed site (**for new site only**)
8. __ Local Conservation Commission. Each site must be reviewed by the local **Conservation Commission** and a copy of the findings submitted to the Department approving the site.
9. __ Local or State Historical Commission. Each site must be reviewed and approved by the **Historical Commission** and certification filed with the Department approving the site.

10. __ **All building proposals must file a completed MEPA Review Thresholds. If any question in the checklist is answered "yes", a MEPA Review is required. Applicant must enclose a certificate with this application from the Secretary of Environmental Affairs that the MEPA Review has been completed.**

11. __ **Certified VOTE of authorization of total project funds with copy of warrant of the vote.**

12. __ Certified VOTE of Prop. 2 ½ Debt Exclusion and evidence of the expiration of any referendum period if applicable

13. __ Proof of site ownership (Deed) **[This includes existing and new]**

14. __ Preventive Maintenance Plan (645-12)

15. __ Form F (645-9)

16. __ Obtain local water service and local sewage disposal/treatment approval (tie-in where applicable; with Public Health approval in all cases); Public Safety Approval from a recognized public official. Certification of final plans by local Building Inspector

17.A* __ **Final working construction documents and bid specifications submitted to school district**

17.B* __ **Final working construction documents and bid specifications in CD format submitted to Department of Education**

18. __ **Architect Certifications:**
    - ❖ Certification of Cost Effective Design (645-13) (Architect)
    - ❖ Architectural Access Board approval (Architect)
    - ❖ Certification of no unapproved space changes from approved preliminary plans (Architect)
    - ❖ Certification of compliance with Chapter 645 Regulations (Architect)
    - ❖ Certification from architect that the bid specs include the correct minority hiring language per any local agreements with MCAD (Architect)

19. __ **The town counsel or legal representative for the school district shall provide the Department a letter as to whether the city/town has/has not any issues or complaints pending with the Massachusetts Commission Against Discrimination per Executive Order 237.**

***Note: The Department of Education now has technology capability to review working drawings, preliminary drawings and specifications on computers. Therefore, where applicable, we require that you submit these documents in CD format. The school districts should receive all hard copies of these documents.**

APPENDIX J

Commonwealth of Massachusetts
DEPARTMENT OF EDUCATION

School Building Assistance Services

There are four letters that you will receive from the Department of Education during the application process. These letters are to be retained in your records. The Department will keep a copy in your school construction project application file at the Department of Education. No application will be considered complete without these letters.

1) Acknowledgment that the required **Building Needs Conference** has been held with Department staff and that the school construction project proposal qualifies for a School Building Assistance grant under the provisions of Chapter 645 of the Acts of 1948, as amended (the School Building Assistance Act).

2) Approval of the **Educational Specifications** and **Preliminary Schematic Drawings** as defined in the School Building Assistance regulations (603 CMR:38.00) which describes the educational program and design for the proposed project as approved by the School Committee. **The preliminary schematics are to have all accessible, special needs and resource spaces outlined on the plans.**

3) Approval of the **Site** of the proposed schoolhouse as educationally adequate for the school program. The criteria for this approval are discussed in the School Building Assistance regulations [603 CMR: 38.04]. **This approval is NOT an approval of the site for construction; it is only for educational adequacy**. **Conservation and environmental approvals** must be obtained and filed with the Department as part of the application process. These site sizes are only recommendations. Department staff will visit each proposed site and make the determination of educational adequacy on an individual basis taking into account unique local circumstances. The recommended site sizes are as follows:

Elementary Site:	10 acres plus 1 acre for each 100 seats
Middle/Junior High Site:	15 acres plus 1 acre for each 100 seats
High School Site:	20 acres plus 1 acre for each 100 seats

4) **Acknowledgment of the receipt of a Complete Application on file in the Department of Education will be sent to the applicant when all of the required documents have been received by Department staff. This includes the final working construction drawings and bid specifications. Once you have received this letter, you are free to commence construction if you so desire and have local authority to do so (c.645, §4).**

645 - 3

Commonwealth of Massachusetts
DEPARTMENT OF EDUCATION
School Building Assistance

APPENDIX J

Rationale for Capital Construction

Date: ____________________

School District: ____

Proposed Project: ____

Section 11 of Chapter 645 of the Acts of 1948, as amended, requires that every applicant for a School Building Assistance examine thoroughly "all available options for satisfying the described (school space) need" by investigating each of the following alternatives. Please complete this form and submit it to Department staff at the Building Needs Conference. Respond to each question with a cost effectiveness analysis of the option.

1)Can the need be met through the renovation of an existing school building (e.g., reopening, conversion, etc.) ?

2)Can the need be met through acquisition of a suitable structure?

3)Can the need be met through lease, tuition, redrawing of attendance districts or otherwise, in order to use existing buildings?

4)Provide a cost comparison between the alternatives discussed above and the proposed new construction to demonstrate the cost effectiveness of your proposal.

We hereby certify that we have fully explored all potentially available facilities, considered costs of renovation, acquisition and operation, as well as other solutions to meet our needs. As a result of exploring all options, we recommend proceeding with planning for the following project:

____

____
Superintendent of Schools

____
Chairperson, School Committee

____
Chairperson, School Building Committee

INVENTORY OF EXISTING SCHOOL SPACE UNDER THE JURISDICTION OF THE LOCAL SCHOOL COMMITTEE

The information provided on this sheet will be used for priority ranking of capital school project applications for School Building Assistance. All complete applications submitted to the Department during a given fiscal year between July 1 and June 1, will be ranked for possible approval in the next following fiscal year. It is important to provide accurate information so that we may calculate your rank correctly.

Please fill out one form for each school building currently in use or available for use as a schoolhouse for the grade levels to be served by the project or grade levels where overcrowding is to be relieved. DO NOT INCLUDE LEASED SPACE, TEMPORARY SPACE (PORTABLES), OR SPACE WITH LESS THAN 7'6" FOOT HEADROOM.

School District____/Code__________

School Building____/Code__________

Date of Construction________________ Date(s) of Addition (s) ____/____/____

____/____/____, ____/____/____

Name of Person Completing Form____

Phone (   )____________________

Grade Levels **NOW** served in **THIS** building (circle all that apply):

PK K 1 2 3 4 5 6 7 8 9 10 11 12

I. Gross Square Footage

Use all **OUTSIDE** dimensions of school building to determine the following information:

- Basement (below grade level) ____________________ sq. ft.
- Ground Floor ____________________ sq. ft.
- All Upper Floors ____________________ sq. ft.

TOTAL ____________________ sq. ft.

II. Inventory of Educational Spaces

For each of the educational spaces listed on the next page, calculate the gross square footage using the **INSIDE** dimensions of each area. Include any self contained bathrooms supply space, and teacher/staff space in each educational space listed. In the **"LOCATION"** column on the next page, insert the letter that applies for each space, as follows: **B = Basement Level; G = Ground Floor; U = Upper Floors**.

DESCRIPTION	NUMBER	SQUARE FEET	LOCATION - B G U
Pre Kindergarten			
General Classrooms			
Business Education			
Science Laboratories			
Life Management Skills			
Family and Consumer Science/Tech. Ed.			
Arts and Crafts			
Music			
Special Education			
Remedial Reading/Math			
Bilingual Education			
Physical Education			
Collaborative			
Library/Media Center			

Total - Basic Educational Space ____________ sq.ft

DESCRIPTION	NUMBER	SQUARE FEET	LOCATION - B G U
Cafeteria			
Cafetorium/Stage			
Kitchen			
Auditorium/Stage			
Health Suite			
Guidance Suite			
Admin. (Instructional)			
Teacher Areas			
Phys.Ed. Lockers/Showers			

Total Misc Educational Space __________sq.ft.

Total Educational Space-Bldg __________sq.ft.

Column (I) indicates new spaces to be added; when the proposed project is a new school, complete Column I only.
Column (II) is for the existing spaces after planned renovations; for renovation projects only, complete Column II.
Column (III) is total spaces needed to operate the approved educational program. Columns (I)+(II) must equal Column (III) for additions.

Please note the footnotes on each page to insure the correct space computations per c.645 Regulations. The recommended classroom sizes in parentheses below each type of space EXCLUDE storage, teacher area and wall thickness. The gross square footage in each column below should include storage and teacher area, but not wall thickness and therefore may exceed the recommended square footage in the regs (net sq.ft.).

TABLE A	(I) Additional Space (New Construction)		(II) Existing Space After Renovations		III Total Space (Educational)	
A. Basic Educational Space	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
1.Pre-K (1200-1300)						
2. Kindergarten (1200-1300)						
3. General Class (900-1000)						
4. Art (1000-1200)						
5. Music Rooms (1000-1200)						
a. Ensemble (Up to 200)						
b. Practice (75-130)						
6.Science/Computer (1000-1200)						
7. Media Center /Library (1800-3000)						
8. Phys.Ed. Teaching Station (1800-3000)**						
9. Special Needs (as needed)						
10. Remedial (as needed)						
11. Collaborative (as needed)						
A. SUBTOTAL Basic Space						

* Includes Storage but not wall thickness

** Lockers & storage under miscellaneous space

645 - 5E
9/97

APPENDIX J

School Building Assistance

Elementary School Education Specifications

Date____________ Version #______

School District____/Code________
School Name____/Code________

Contact Person______________________________Title______________________________

Address____
____Telephone____________________
Type of Proposed Construction: New_______ Addition_______ Renovation______

Complete the following for all addition and/or renovation projects.

Date of original construction __________________. Reopen? Y____ N ____

Date(s) of addition(s): ________________ , ______________ , _____________

Site Location:____ Acres:___________

Grade in Attendance (circle): Pre-K K 1 2 3 4 5 6 7 8

School Consolidation/Grade Reorganization: Y___ N ___ If yes, describe before/after conditions below:

Enrollment Data (*Full Time Equivalent)
(For part time students - 1/2 day Kindergarten, divide enrollment by 2)

Current (/ /)			Projected (/ /)	
Head Count	FTE*		Head Count	FTE*
		Pre-K		
		Kindergarten		
		Ungraded		
		Grades ___to____		
		Total		
		Collaboratives		

TABLE B	(I) Additional Space (New Construction)		(II) Existing Space After Renovations		III Total Space (Educational)	
B. Miscellaneous Educational Space (In Regulations)	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
1.Cafeteria + Seating						
2.Cafetorium+Seating						
Stage	****		***		*****	
3. Guidance a. Office						
b. Counseling						
c. Waiting(as needed)						
4. Health Suite a. Office						
b. Examining Room						
c. Rest Areas (300-750)						
5. Kitchen ++						
6. Administration a. Principal						
b. Asst.. Principal						
c. General Office						
d. Conference						
e. Other (up to 800)						
7. Planning Room						
8. Teachers Dining Rm						
9. Auditorium +++ Seating						
Stage	****		****		*****	
10. Phys.Ed. a. Locker Rooms						
b. Storage						
B. SUBTOTAL Misc. Educ. Space						

+ 15 Sq.Ft. per pupil for or of the enrollment at each seating

++ For full service kitchen allow 1300 sq.ft. for the first 300 meals, plus 1 sq.ft. for each additional meal serviced. For service kitchen only, allow 800 sq.ft.

+++ 7 Sq.Ft. per pupil for seating; stage square foot additional.

C. SUMMARY OF SPACES FOR MAXIMUM CONSTRUCTION COST ALLOWANCE

Table C Summarizes the square footage of the educational program space in Tables A and B to determine the maximum allowable cost for the proposed school project.

TABLE C	(I) New Construction		(II) Renovated Space		(III) Total Planned Space	
Description of Space	Sq.Ft.	%	Sq.Ft.	%	Sq.Ft.	%
1. Basic Educational						
2. Miscellaneous Educational						
3. SUBTOTAL (Basic+Misc.)						
4. Other Space						
5. TOTAL Gross (Educational+Other)						

D. MAXIMUM ALLOWABLE SQUARE FOOTAGE

The allowable square feet per pupil as provided for in the School Building Assistance Regs is 115 for elementary schools. The following other spaces may be approved in excess of this base and should be included in the table above. (Preliminary Drawings: to define 'other space' use the following color codes)

Special Needs: (Yellow)____________________Sq.Ft.
TBE: (Blue) ____________________Sq.Ft.
Remedial: (Green) ____________________Sq.Ft.

Collaboratives: (Yellow)____________________Sq.Ft.
Community: (Red) ____________________Sq.Ft.
Technology: (Tangerine)____________________Sq.Ft.

Total Allowable Square Feet in Excess of Base:____________________Sq.Ft.

E. MAXIMUM ALLOWABLE CONSTRUCTION COST

The cost allowed per square foot for new school construction is published in the regulations and updated annually. Renovation costs vary widely depending on the age and overall condition of the existing schoolhouse. Under normal circumstances, renovation costs should not exceed 50% of the cost of new construction per square foot. Proposals for which the renovation costs are estimated to EXCEED 50% of new construction will be reviewed on an individual basis by DOE staff prior to recommendation to the Board for approval.

1. (____________________ x 115) + ____________________Sq.Ft. =____________________Sq.Ft.
x135
(Projected Enrollment x 115) + Total Approved Excess (table D) =Maximum Gross Sq. Ft.

2. 156.00/166.00 x ____________________Sq.Ft. =$____________________New
Allowable Cost per Sq.Ft. x Gross Sq.Ft. New = Maximum Allowable Cost New

3. $____________________ x ____________________Sq.Ft. =$____________________Renovation
Allowable Cost per Sq.Ft. x Renovated Sq.Ft. = Allowance for Renovations

$____________________ +$____________________ =$____________________
NEW + RENOVATIONS = MAXIMUM ALLOWABLE COST

645-5M/S

School Building Assistance

Middle/High School Educational Specifications

Date:________________________ Version #:__________

School District:____

School Name:____

Completed by:____

Type of Project:New School for _____ Students
Addition of _____ Seats & Core
Renovation of _____ Spaces
Acquisition/Renovation of _____ Seats & Related Core Facilities

ENROLLMENT INFORMATION

Grades	Current Enrollments as of ________(Yr.)	Projected Enrollments as of ________(Yr.)
TOTAL		

In order to determine the teaching station for the projected enrollment, the following information is needed to complete the Tables in this form.

1)Projected students in each class: the total number of students who will be taking each subject.
2)Class size: the maximum proposed class size for each project.
3)Sections: the number of sections of each course needed to serve the projected enrollment. Divide the total projected enrollment by the class size.
4)Sessions per week: the number of times the class meets each week (usually 3 or 5).
5)Periods per week: the number of periods each day times 5.
6)Teaching stations required for program: multiply the number of sections by the sesions per week that each subject is taught.

APPENDIX J

In order to determine the number of NEW teaching stations needed for projected enrollments, the following information is needed:

1) After you determine the total number of teaching stations required, subtract the number of teaching stations currently available from the teaching stations required to support your educational program, to determine the number of new stations that will be needed to serve the projected enrollment (only needed for additions).

2) Determine the net area of each station, both new and existing (proposed renovations). Include storage space:

Subtotal the net basic educational space, the net miscellaneous space and the gross square footage; these figures will be used in the space computations on the last page and are necessary to evaluate the efficiency of the structure.

The following column designations and calculations will determine the net educational space to be renovated and/or newly constructed:

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Subject	Projected Students per Class	Class Size	Sections	Sessions per Week	Total Sessions	Periods per Week	Total Stations Required	Stations Available	Sq.Ft. each Station	Total Area Available	New Stations Required	Sq.Ft. each Station	Total Area New

Calculations

Step 1: Sections

$\frac{B}{C}$ =D

Step2: Total Sessions

D x E =F

Step 3: Stations Required

$\frac{F}{G}$ =H

Step 4: New Stations Needed

H - I =L

Step 5: Total Area Available

I x J =K

Step 6: Total New Area to be built

L x M =N

APPENDIX J

645-5M/S Pg.____

TABLE 1 - BASIC EDUCATIONAL SPACE FOR PLANNED PROGRAM

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Subject	Projected Students per Class	Class Size	Sections	Sessions per Week	Total Sessions	Periods per Week	Total Stations Required	Stations Available	Sq.Ft. each Station	Total Area Available	New Stations Required	Sq.Ft. each Station	Total Area New

645-5M/S Pg.____

TABLE 1 -Contiued

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Subject	Projected Students per Class	Class Size	Sections	Sessions per Week	Total Sessions	Periods per Week	Total Stations Required	Stations Available	Sq.Ft. each Station	Total Area Available	New Stations Required	Sq.Ft. each Station	Total Area New
PHYSICAL EDUCATION													
Teaching Station 1													
Teaching Station 2													
Teaching Station 3													
Teaching Station 4													
Other:													
SPECIAL EDUCATION													
Special Needs:													
Special Needs:													
Special Needs:													
Small Group													
Small Group													
Bilingual 1													
Bilingual 2													
Collaborative Class													
Other:													

645-5M/S **Pg._____**

TABLE II - SPACE NEEDS SUMMARY

Total columns H, I, K, & N from Table I for all regular classroom curriculum including only those business and science courses that do NOT require specialized spaces; total all specialized teaching stations needed for basic educational use; then total all miscellaneous educational space and fill out the table below.

Teaching Station	Number Needed	Sq.Ft. Area	Number Available	Sq. Ft. Area	Number New Stations Needed	Sq. Ft. Area
GENERAL CLASSROOMS						
Subtotal General Instruction:						
SPECIALIZED TEACHING STATIONS						
Subtotal Specialized Teaching Space:						

TABLE II Continued
MISCELLANEOUS EDUCATIONAL SPACE

Station/Space	Sq.Ft. Required	_	Sq.Ft. Available	=	New Area Needed	Comments
Administration		_		=		
Auditorium/Stage		_		=		Capacity:
Cafeteria		_		=		Seatings:
Guidance		_		=		
Health Suite		_		=		
Library/IMC		_		=		
Locker/Shower Rooms		_		=		
Kitchen		_		=		
Teachers' Planning & Dining		_		=		
Other:		_		=		
Other:		_		=		
Subtotal Miscellaneous Space		_		=		

OTHER SPACE (Non-Educational):________________________________**Sq.Ft.**

TABLE III - SUMMARY OF SPACES FOR MAXIMUM CONSTRUCTION COST ALLOWANCE

Table C Summarizes the square footage of the educational program space in Tables A and B to determine the maximum allowable cost for the proposed school project.

TABLE III	(I) New Construction		(II) Renovated Space		(III) Total Planned Space	
Description of Space	**Sq.Ft.**	**%**	**Sq.Ft.**	**%**	**Sq.Ft.**	**%**
1. Basic Educational						
2. Miscellaneous Educational						
3. SUBTOTAL (Basic+Misc.)						
4. Other Space						
5. TOTAL Gross (Educational+Other)						

D. MAXIMUM ALLOWABLE SQUARE FOOTAGE

The allowable square feet per pupil as provided for in the School Building Assistance Regs is 115 for elementary schools. The following other spaces may be approved in excess of this base and should be included in the table above.

Special Needs: (Yellow)____________________Sq.Ft.
TBE: (Blue) ____________________Sq.Ft.
Remedial: (Green) ____________________Sq.Ft.

Collaboratives: (Yellow)____________________Sq.Ft.
Community: (Red) ____________________Sq.Ft.
Technology: (Tangerine)____________________Sq.Ft.

Total Allowable Square Feet in Excess of Base:__________________Sq.Ft.

E. MAXIMUM ALLOWABLE CONSTRUCTION COST

The cost allowed per square foot for new school construction is published in the regulations and updated annually. Renovation costs vary widely depending on the age and overall condition of the existing schoolhouse. Under normal circumstances, renovation costs should not exceed 50% of the cost of new construction per square foot. Proposals for which the renovation costs are estimated to EXCEED 50% of new construction will be reviewed on an individual basis by DOE staff prior to recommendation to the Board for approval.

1. (________________ x 135) + ______________________Sq.Ft. =______________________Sq.Ft.
(Projected Enrollment x 155) + Total Approved Excess (table D) =Maximum Gross Sq. Ft.

2. $. 166.00/177.00 x ______________________Sq.Ft. =$______________________New
Allowable Cost per Sq.Ft. x Gross Sq.Ft. New = Maximum Allowable Cost New

3. $__________________ x ______________________Sq.Ft. =$______________________Renovation
Allowable Cost per Sq.Ft. x Renovated Sq.Ft. = Allowance for Renovations

$__________________ +$______________________ =$__________________________
NEW + RENOVATIONS = MAXIMUM ALLOWABLE COST

645-9 Page 1 of 2

Commonwealth of Massachusetts
DEPARTMENT OF EDUCATION
School Building Assistance Services

FORM F
COST ESTIMATE AND PLAN FOR FINANCING

[File this form with Final Submission]

LEA: ____________________
SCHOOL: ____________________
CONTACT: ____________________ PHONE#: ____________
ARCHITECT: ____________________ DATE: ____________

A. Estimate of Project Cost

	Work in Existing Building	**New Construction**
General Contract	$	$
Architect's Fees	$	$
Equipment & Furnishings (**do not include technology**)	$	$
Technology (Computers, wiring, etc.)	$	$
Other Costs (Itemize on reverse side Section D)	$	$
Totals for Each Column	**$**	**$**

Total Project Cost **$** ____________________

Gross Square Footage of Project: ____________ ____________
(refer to Ed. Specs.)

B. Method of Financing

Taxation	$
Building Fund	$
Other Sources (Itemize on reverse side Section E)	$
Sale of Bonds/Notes	$
Total Costs Financed From All Sources	**$**

C. Estimate of Interest on Bonds and Notes

Term of Bonds/Notes ______________________ Years : ______________
(If multiple borrowings, attach all debt service schedules)

Date(s) of Issue : ____/____/____ , ____/____/____ , ____/____/____

Estimated Interest Rate : ________ % Estimated Interest Cost : $ ______________

D. Other Costs

Item/Service	Existing Building	New Construction
______________	$ ______________	$ ______________
______________	$ ______________	$ ______________
______________	$ ______________	$ ______________
______________	$ ______________	$ ______________
______________	$ ______________	$ ______________
Total Each Column	**$** ______________	**$** ______________
Total All Other Costs	**$** ______________	

E. Other Sources of Financing

Source	Amount Financed
Stabilization Fund	$ ______________
Other Grants	$ ______________
Gifts/Donations	$ ______________
______________	$ ______________
______________	$ ______________
Total From All Other Sources	**$** ______________

Form F Completed by : ______________________________ Date : ____/____/____

Signature of the Treasurer : ______________________________

THIS FORM MUST BE FILLED OUT COMPLETELY AND SIGNED BY BOTH PARTIES

Commonwealth of Massachusetts
DEPARTMENT OF EDUCATION

School Building Assistance Services

Local Agency Approvals And Certifications

School Construction Final Plans And Bid Specifications

To: School Building Assistance Services

We hereby certify that the school construction plans and specifications filed with the School Building Assistance Services Unit of the Department of Education dated ______/______/______:

Town: ____ for the

School: ____

are in compliance with all state statutes and regulations, and all local ordinances and by-laws governing the construction of public school buildings in the Commonwealth of Massachusetts.

The local **public health officer or official agent** must review the proposed plan for adequacy of water supply and sewage disposal. Copies of these approvals shall be filed with the Department.

____

Name and Signature of city/town official Date

Public safety. The plans must be reviewed and approved by for adequacy. This approval normally comes from the local Fire Chief.

____

Name and Signature of city/town official Date

The **local building inspector** must review and approve the construction plans.

____

Name and Signature of city/town official Date

The Department of Education will accept only authorized signatures. This form must be submitted as part of the application package for final submission on June 1.

Architect Certifications

To: School Building Assistance Services

We hereby certify that the school construction plans and specifications filed with the School Building Assistance Services Unit of the Department of Education dated ______/______/______:

Town: ____ for the

School: ____

are in compliance with all state statutes and regulations, and all local ordinances and by-laws governing the construction of public school buildings in the Commonwealth of Massachusetts.

(1) A copy of the plans must be submitted to the **Architectural Access Board** for review and approved as being in compliance to all accessibility laws, codes and standards. In lieu of an approval from this Board due to workload constraints at the Architectural Access Board, the architect must certify to the Department that any changes deemed necessary by said Board will be made.

(2) The architect must assure the Department that the **bid specifications contain appropriate minority hiring language**.

(3) **The architect for each project must certify that there are no unapproved changes in spaces from the approved preliminary plans and that the final plans do not differ in any significant way from the schematic plans on file in the Department.**

Name of Architect Firm:____

Name of Principal Architect:____

Signature:____**Date:**____________

These approvals are required and must be submitted as part of the **Complete SBA Grant Application** package for final submission June 1.

Commonwealth of Massachusetts

DEPARTMENT OF EDUCATION

School Building Assistance Services

Preventive Maintenance Plan

Chapter 645 of the Acts of 1948, as amended, requires the Board of Education to determine that any "reconstruction, renovation or improvement has not been necessitated, in whole or in part by the failure" of a school district to make "adequate and prudent provisions for the care and maintenance" of their schoolhouses. Each applicant for a School Building Assistance grant must submit a preventive maintenance plan for the proposed project as well as the entire school system. The maintenance plan must be responsive to the following:

1) Description of the regular routine maintenance schedule implemented to insure the maximum life of each building system, surface and major equipment.

2) Description of the administration of the plan.

3) Description of the system of checks and reporting.

4) Description of the maintenance records and record keeping system.

If you have a preventive maintenance plan manual, you may submit that to the Department with this form as a cover sheet, so long as your plan responds to the items listed above. If you use this form, attach additional pages as needed.

Commonwealth of Massachusetts

DEPARTMENT OF EDUCATION

School Governance, Environment and Structural Support Services

Cost Effectiveness and Life Cycle Cost Considerations

Project Name: ____________________________________

School District: ____________________________________

Completed by: ____________________________________

In conformance with Section 10(b) of Chapter 645 of the Acts of 1948, as amended, and the regulations pursuant to said section [603 CMR: 38.03(2)], information supporting the cost effectiveness of design and materials must be submitted to the Department with the final working construction documents. Please provide a brief statement discussing the cost effectiveness and life cycle cost considerations of the proposed school construction for the following:

1) Life expectancy (minimum of 50 years):

2) Design/materials to minimize vandalism:

3) Design and materials selection chosen to provide for cost effectiveness as it relates to each of following components including selections for compliance with Chapter 433 of the Acts of 1976, energy use and life cycle cost of systems to be installed:

Site Selection & Preparation
Site Development
Foundation Construction
Utilities Design & Location
Structural Systems
Roof Systems/Roofing
Carpentry
Masonry
Windows & Glazing
Acoustics
Plumbing
Heating & Ventilating Systems
Electrical Systems
Fixed Equipment
Exterior Facing

Attach your statement to this form and file with the final construction documents.

MEPA REVIEW THRESHOLDS

The following checklist summarizes the review thresholds in the state MEPA regulations, 301 CMR 11.00, which are most likely to affect a school building project. The proponent must fill out every line in the checklist, relying upon its architect, engineers, or other technical consultants, as appropriate. For potential impacts upon rare species, the proponent should refer to the Natural Heritage Atlas and consult with the Natural Heritage and Endangered Species Program of the Division of Fisheries and Wildlife (1 Rabbit Hill Road, Westboro, MA 01581). Similarly, for potential impacts upon historic or archaeological resources, the proponent should refer to the State Register of Historic Places and the Inventory of Historic and Archaeological Resources of the Commonwealth and consult with the Massachusetts Historical Commission (220 Morrissey Boulevard, Boston, MA 02125). **If the proponent is uncertain as to the requirement of MEPA review, one should refer to the full MEPA regulations and consult the MEPA Office (telephone: 617/727-5830). If necessary, the MEPA Office will issue a written advisory opinion as to whether MEPA review is required.**

A copy of the completed checklist should be enclosed with any request for an advisory opinion. **If any line of the checklist is answered "yes," MEPA review of the project will be required.** Refer to the MEPA regulations and consult with the MEPA Office for the requirements governing the filing of an Environmental Notification Form.

Threshold		Yes	No
Land	1. Direct alteration of 25 or more acres of land.		
	2. Creation of five or more acres of impervious area.		
	3. Conversion of land held for natural resources purposes in accordance with Article 97 of the Massachusetts Constitution to any purpose not in accordance with Article 97.		
	4. Conversion of land in active agricultural use to non-agricultural use, provided the land includes soils classified as prime, state-important or unique by the United States Department of Agriculture.		
	5. Release of an interest in land held for conservation, preservation or agricultural or watershed preservation purposes.		
	6. Approval in accordance with M.G.L. c.121B of a New urban renewal plan or a major modification of an existing urban renewal plan.		
Rare Species	1. Alteration of designated significant habitat.		
	2. Taking of an endangered or threatened species or species of special concern, provided that the Project site is two or more acres and includes an area mapped as a Priority Site of Rare Species Habitats and Exemplary Natural Communities.		
Wetlands, Waterways and Tidelands	1. Alteration of 5000 or more sf of bordering or isolated vegetated wetlands;		
	2. New fill or structure or Expansion of existing fill or structure, except a pile supported structure, in a velocity zone or regulatory floodway		
	3. Alteration of ½ or more acres of any other wetlands.		
	4. Provided that a Chapter 91 licence is required, New or existing non-water dependent use of waterways or tidelands.		
Water	1. New withdrawal or Expansion in withdrawal of 100,000 or more gpd from a water source that requires New construction for the withdrawal.		
	2. Alteration requiring a variance in accordance with the Watershed Protection Act.		

Transportation	1. Construction, widening or maintenance of a roadway or its right-of-way that will:		
	a. alter the bank or terrain located ten more feet from the existing roadway for one-half or more miles, unless necessary to install a structure or equipment;		
	b. cut five or more living public shade trees of 14 or more inches in diameter at breast height; or		
	c. eliminate 300 or more feet of stone wall		
	2. Abandonment of a substantially intact rail or rapid transit right-of-way.		
	3. Generation of 2,000 or more New adt on roadways providing access to a single location.		
	4. Generation of 1,000 or more New adt on roadways providing access to a single location and construction of 150 or more New parking spaces at a single location.		
	5. Construction of 300 or more New parking spaces at a single location.		
Historical and Archaeological Resources	1. Unless a Project is subject to a Determination of No Adverse Effect by the Massachusetts Historical Commission or is consistent with a Memorandum of Agreement with the Massachusetts Historical Commission that has been the subject of public notice and comment:		
	a. demolition of all or any exterior part of any Historic Structure listed in or located in any Historic District listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth; or		
	b. destruction of all or any part of any Archaeological Site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth.		
ACECs	1. Any Project within a designated ACEC		

Name of Project:____

Name of Proponent:____

Signature:____

Date:____

This form complete with date and signature must be filed with the School Building Assistance Grant Application.

If any question is answered 'yes', a certificate from the Secretary of Environmental Affairs that the MEPA Review process has been completed must be enclosed with the application by the June 1st deadline.

DCPO CONTRACTOR CERTIFICATION
EVALUATION QUESTIONNAIRE

Reference Name : ______________________ Contractor : ______________________

Position/Title : ______________________ Evaluator : ______________________

Agency or Firm : ______________________ Telephone: ______________ Date : ____

Project Description : ______________________

Project Location : ______________________

Contract Cost : $______________________ Start/End Dates : ______________________

Type of Contract: Bid______________ Negotiated______________ Other (Specify):______________

1. Finished Product Quality

Was the building or project completed in all respects in accordance with the contract plans, specifications and requirements? Was it necessary to modify, repair or correct any deficiencies. Explain, citing examples and indicate if deficiencies were of a significant nature .

____

____

____

2. Performance and Accountability

(a) Did the subcontractors' work proceed smoothly, according to plans and specifications? (If no subcontractors were used, check N/A and skip to (b).) If not, explain circumstances. Was contractor able to resolve problems effectively?

____

____

____

(b) Did the contractor meet the contract schedules? If not, explain giving reasons, who was responsible, length of delay and if damages were assessed.

____

____

____

(c) Were the contractor's working relationships with other parties -- including the owner/user agency, the designer, the project manager and the subcontractors --satisfactory? If not, cite examples of problems and how these were resolved.

____

____

(d) Were the contractor's construction procedures satisfactory -- that is, was the contractor knowledgeable and competent in approaching and carrying out the work called for in the plans and specifications? If not, give specific examples of unsatisfactory construction procedures. Do you consider the problems that resulted to be major or minor? Why?

(e) Did the contractor submit the required paperwork promptly and in proper form? If not, give specific examples of problems.

3. Project Supervision

(a) Did the supervisor(s) or project manager(s) perform satisfactorily -- that is, did this person (these people) demonstrate construction experience, knowledge and management skills? If not, in what way was this person's performance unsatisfactory? Do you consider the problems that resulted to be minor or major? Why? (Note to evaluator: Obtain performance evaluations for each supervisor or project manager on the project.)

4. Were there legal proceedings, invoked bonds, or assessed penalties or damages on this contract? If yes, what were the circumstances leading to the legal proceedings, invoked bonds, or assessment of penalties or damages? What is the status of any pending litigation? What are the dollar amounts of the penalties/damages?

DCPO Questionnaire
Page 3 of 3

DCPO CONTRACTOR CERTIFICATION
RATING SUMMARY SHEET

Reference Name : ______________________ Contractor : ______________

Position/Title : ______________________ Evaluator : ______________

Agency or Firm : ______________________ Date : ______________

Telephone: ______________________

	Unsat.	Below Average	Average	Above Average
1. Finished Product Quality	0	15	30	40
SUBTOTAL				
2. Performance and Accountability				
(a) Management of subcontractors	0	2	5	8
(b) Coordination and scheduling	0	2	5	8
(c) Working relationships	0	2	5	8
(d) Construction procedures	0	2	5	8
(e) Paperwork processing	0	2	5	8
SUBTOTAL (write in)				
3. Project Supervision - Performance of supervisors or project managers				
#1	0	8	15	20
#2	0	8	15	20
#3	0	8	15	20
AVERAGE (write in)				
TOTAL CONTRACTOR RATING (Add subtotals 1, 2, & 3)				

Evaluator comments:

Supervisor comments:

I certify that the information above represents, to the best of my knowledge, a true analysis of the contractor's performance record on the designated project. I have mailed a copy of this form to the contractor on______________date.

____
Signature of Evaluator

The contractor may, within thirty days, submit a written response to the Division of Capital Planning and Operations One Ashburton Place,Boston, MA 02108, for attachment to this form and inclusion in the contractor's qualification file.

(Please refer to 810 CMR 4.08-4.10, DCPO Regulations for prequalification and rating categories.)

Millis

APPENDIX K

1. DESCRIPTION OF THE REGULAR ROUTINE MAINTENANCE SCHEDULE IMPLEMENTED TO INSURE MAXIMUM LIFE OF EACH BUILDING SYSTEM, SURFACE AND MAJOR EQUIPMENT.

A staff of (3.5) three point five custodians are responsible for the cleanliness and light maintenance at the Millis Middle/High School.

The shifts are staggered to accommodate lunch periods, athletics and functions that take place at this building. Staffing coverage is from 6:30am to 11:30pm weekdays.

Maintenance issues are assigned to individuals commensurate with their abilities. This staff is responsible for cleanliness, floor care, lubrication, filters, lighting, telephones, heating, ventilating, minor repairs to movable and fixed equipment as well as all grounds and all athletic facilities. Any repairs beyond the capabilities of the staff or due to time constraints are farmed out to private contractors.

2. DESCRIPTION OF THE ADMINISTRATION OF THE PLAN.

The Director of Operations oversees the preventative maintenance program of this school building. The custodians receive in-house seminars by providers for routine maintenance. Preventative maintenance is carried out by the in-house staff as well as outside contractors. Every aspects of maintenance is directly overseen by the Director of Operations and training for the staff is carried out by the Director, either directly or through vendors.

3. DESCRIPTION OF THE SYSTEM OF CHECKS AND REPORTING.

Maintenance needs are requested orally or through a written maintenance request. The Director determines how the maintenance issue will be carried out. A work order is issued. The response will be facilitated either by in-house staff or private vendor.

Emergencies are dealt with immediately via two-way FM radios.

4. DESCRIPTION OF THE MAINTENANCE AND RECORD KEEPING SYSTEM.

All hard copies of the work orders are kept on file in the Operations office. Hard copies of preventative maintenance measures for all building systems are kept in respective logs, as to date, time and the measure(s) carried out.

NEWTON

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9/1/91

APPENDIX K

Commonwealth of Massachusetts

SCHOOL FACILITIES and MANAGEMENT SERVICES BUREAU

Preventive Maintenance Plan

Chapter 645 of the Acts of 1948, as amended, requires the Board of Education to determine that any "reconstruction, renovation or improvement has not been necessitated, in whole or in part by the failure" of a school district to make "adequate and prudent provisions for the care and maintenance" of their schoolhouses. Each applicant for a School Building Assistance grant must submit a preventive maintenance plan for the proposed project as well as the entire school system. The maintenance plan must be responsive to the following:

1) Description of the regular routine maintenance schedule implemented to insure the maximum life of each building system, surface and major equipment.

The Senior Custodian of a facility is responsible to ensure that any problems are reported to the Public Buildings Department. Periodic checks on the condition of equipment, roofs windows, HVAC systems, etc. are made by the custodian, who if repairs are required, notifies the Public Buildings Department.

2) Description of the administration of the plan.

The Public Buildings Department Maintenance Supervisor along with the facilities Senior Custodian prepare maintenance and repair requests that are submitted to the Public Buildings Department for appropriate action, whether with In-House Personnel or outside contractors.

3) Description of the system of checks and reporting.

After the appropriate M&R has been logged, it is given out for repair as stated above and then reviewed by the Building Maintenance Supervisor when the request for work is completed.

4) Description of the maintenance records and record keeping system.

All requests for repairs are given a control number and filed by building and trade in appropriation location for work to be either accomplished or completed. Contracts are kept for the length of time the City owns a facility.

If you have a preventive maintenance plan manual, you may submit that to the Bureau with this form as a cover sheet, so long as your plan responds to the items listed above. If you use this form, attach additional pages as needed.

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9/1/91

STOW

Commonwealth of Massachusetts

SCHOOL FACILITIES and MANAGEMENT SERVICES BUREAU

Preventive Maintenance Plan - Hale Middle School

Chapter 645 of the Acts of 1948, as amended, requires the Board of Education to determine that any "reconstruction, renovation or improvement has not been necessitated, in whole or in part by the failure" of a school district to make "adequate and prudent provisions for the care and maintenance" of their schoolhouses. Each applicant for a School Building Assistance grant must submit a preventive maintenance plan for the proposed project as well as the entire school system. The maintenance plan must be responsive to the following:

1. Description of the regular routine maintenance schedule implemented to insure the maximum life of each building system, surface and major equipment.

   See attached maintenance schedule.

2. Description of the administration of the plan.

   The plan will be administered by Mr. David Perkins, Supervisor of Buildings & Grounds for the Nashoba Regional School District.

3. Description of the system of checks and reporting.

   The maintenance plan for this school will be administered by the Supervisor of Buildings & Grounds reporting directly to the Superintendent of Schools. School property is owned by the Town of Stow. The maintenance involving cleaning and visual inspections will generally be carried out by the School Maintenance Staff. Repairs and inspections of machinery will be carried out by licensed tradespeople in the appropriate fields (either town employees or contract service as required) or by manufacturer's representatives.

4. Description of the maintenance records and record keeping system.

   A Maintenance Record will consist of a log maintained by the Senior Building Custodian. In addition, the record of all payments for maintenance and repair will be maintained at the Supervisor's Office, the cost of which will be properly reflected in the accounting records within the school budget.

If you have a preventive maintenance plan manual, you may submit that to the Bureau with this form as a cover sheet, so long as your plan responds to the items listed above. If you use this form, attach additional pages as needed.

APPENDIX K

MAINTENANCE PLAN

PART 1: REGULARLY SCHEDULED MAINTENANCE

HEATING VENTILATION AND TEMPERATURE CONTROLS:

Boiler will receive annual inspection and cleaning. The ventilators and temperature controls will be inspected and cleaned at least every six (6) months. Fans, pumps, and ventilator parts will be replaced as needed.

ROOF:

The roof will receive visual inspection at least every six (6) months.

FIRE ALARM SYSTEM:

The fire alarm system will be inspected at least annually by the Town Fire Department. It will be tested four times yearly by Town electricians.

FLOORS:

The floors will receive daily cleaning with regular waxing of tile floors, carpets will be vacuumed and shampooed as required. Gym floors will be refinished annually.

KITCHEN:

The grease trap will be cleaned and inspected at least monthly. The dishwasher and refrigerator will receive yearly maintenance by the manufacturer or dealer.

APPENDIX L

The Commonwealth of Massachusetts
Department of Education

350 Main Street, Malden, Massachusetts 02148-5023

Telephone: (781) 388-3300
TTY: N.E.T. Relay 1-800-439-2370

NOTICE OF AGENCY INTERPRETATION OF REGULATION

To: Superintendents, School Committees, Municipal Officials, Architects, Civil Engineers, General Contractors, Building Inspectors, and other interested parties.

From: Robert V. Antonucci
Commissioner of Education

Date: October 22, 1997

Re: REGULATIONS ON SCHOOL CONSTRUCTION
603 CMR 38.03, Design Specifications, Renovation of Existing Buildings

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This notice is intended to clarify the Department of Education's interpretation of its regulations governing design requirements for proposed school construction projects involving the expansion and/or renovation of existing buildings. Those regulations appear at 603 CMR 38.03.

It has come to our attention that the current wording of 603 CMR 38.03(2) has created confusion and may have been interpreted by some as imposing on school construction projects building code requirements other than those specified at 780 CMR 34, the section of the State Building Code entitled "Repair, Alteration, Addition and Change of Use of Existing Buildings." The Department and Board of Education did not intend this result, and the regulations will be amended in the near future to eliminate this confusion.

In the meantime, please be advised that the Department of Education interprets 603 CMR 38.03(2) to require that the design specifications for school construction projects for the expansion and renovation of existing buildings meet the current Building Code requirements established by the Executive Office of Public Safety for changes to existing buildings. These requirements are detailed in the current edition of the Building Code, codified at 780 CMR 34.

As long as design specifications for school construction projects for the expansion and renovation of existing buildings satisfy the requirements set forth at 780 CMR 34, they will be accepted by the Department and deemed to meet the requirements of 603 CMR 38.03(2).

dxj/sbacode

Top 10 Most Densely Populated States

	State	Population	Square Miles	Population /Square Miles	Minimum Acreage Guidelines
1.	NJ	7730188	7418.8	1042	Elementary Middle High School 10+1/100 ADA[1] 20+1/100 ADA 30+1/100ADA Guidelines, not requirements, urban and suburban may not be able to meet these minimums.
2.	RI	1003464	1045	960.3	Elementary Middle High School 10+1/100 ADA 15+1/100 ADA 20+1/100 ADA Allow flexibility to acreage requirements for schools built in urban areas.
3.	MA	6016425	7838	767.6	Elementary Middle High School 10+1/100 ADA 15+1/100 ADA 20+1/100 ADA Allow flexibility to acreage requirements for schools built in urban areas.
4.	CT	3287116	4845.4	678.4	Elementary Middle High School 10+1/100 ADA 15+1/100 ADA 20+1/100 ADA Allow flexibility to acreage requirements for schools built in urban areas.
5.	MD	4781468	9774.6	489.2	No requirements. They use general guidelines, but do not follow any national standards.
6.	NY	17990455	47223.8	381	K-6 7-12 3+1/100 ADA 10+1/100 ADA Guidelines, not requirements, urban and suburban may not be able to meet minimums.
7.	DE	666168	1954.6	340.8	No more than 15 acres for 500 or less pupils. No more than 25 acres for 500+ pupils
8.	PA	11881643	44819.6	265.1	No requirements. Most architects comply with CEFPI standards: Elementary Middle High School 10+1/100 20+1/100 30+1/100
9.	OH	10847115	40952.6	264.9	Elementary Middle High School 10+1/100 ADA 20+1/100 ADA 35+1/100 ADA
10.	FL	12937926	53997.3	239.6	Elementary Middle High School 4(200 pupils)+ 1/100 ADA 6(300)+ 1/100 ADA 7(300)+1/150 ADA(<1,000 pupils)+1/100 ADA (pupils thereafter)

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[1] ADA – Average Daily Attendance. Districts are generally required to provide a set acreage amount with additional acres per X (usually 100) number of students.

Open Space Conversions Due to School Expansions[1]

Project Name	Community	Converted Acres[2]	Replacement Acres	Comments
Central Rec.	Belchertown	13.8	14.25	Town inadvertently converted land for school expansion.
Glendale Park	Everett	3.8	N/A[3]	SBAB grant, no money for land acquisition so city forced to look at parkland.
Edith Street	Everett	1.8	1.1	SBAB grant, no money for land acquisition so city forced to look at parkland.
Roosevelt	Malden	3.86	2.97	SBAB grant, no money for land acquisition so city forced to look at parkland.
Multi-Parks	Westfield	9.3	10	City inadvertently converted land for school expansion.
Merritt Park	Chelsea	3.8	5.3	SBAB grant, no money for land acquisition so city forced to look at parkland.
Glen St. Park	Somerville	N/A	N/A	School site.

Urban Self Help

Project Name	Community	Converted Acres[4]	Replacement Acres	Comments
Perry Lane Park – USH #1	Agawam	N/A	N/A	Town permitted expansion of abutting early education center with out offering replacement.
Green Hill Park	Worcester	5	10	SBAB grant, no money for land acquisition so city forced to look at parkland.

Conversions Involving other Municipal Use

Project Name	Community	Converted Acres[5]	Replacement Acres	Comments
ARC	Auburn	2	45	Losing 2 acre traffic island for police station, gaining 45 acre conservation area
Self-Help	Barnstable	N/A	N/A	Fire station
Ruggerio Tennis Courts	Fall River	N/A	N/A	Fire station
	Woburn	N/A	N/A	Police

Recent MEPA Reviews

Year	Project Name	Community	Converted Acres[6]	Replacement Acres	Comments
1996	Ferryway Green	Malden	.7	N/A	City provided replacement open space.
1999	New Vocational School	Worcester	5	35	Replacement acreage more than doubled during the course of MEPA review.

---

[1] All information provided by the Executive Office of Environmental Affairs

[2] All conversion areas previously had articled 97 designated.

[3] Not Available

[4] All conversion areas previously had articled 97 designated.

[5] All conversion areas previously had articled 97 designated.

[6] All conversion areas previously had articled 97 designated.

Current MEPA Review

Year	Project Name	Community	Converted Acres[7]	Replacement Acres	Comments
N/A	Existing School Building	Winthrop	1.5	N/A	Town originally did not offer any mitigation; now proposing MDC conservation restriction on tax title land offering waterfront access.
1999	3 Schools	Lawrence	6	16	The city will refurbish the remaining portion (7 acres) of the existing parks.
1999	New High School	Everett	4.89		City still is considering what mitigation it will offer.
1999	New Elementary School	Medford	43	0	Involves transfer of 43 acres of MDC's Mystic Valley Reservation to City, without any replacement acreage.
1999	New Elementary School	Somerville	0.9	0.5	Project would convert public parkland in densely developed eastern portion of city.

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[7] All conversion areas previously had articled 97 designated.

APPENDIX O

The Commonwealth of Massachusetts
Department of Education

350 Main Street, Malden, Massachusetts 02148-5023
Telephone: (781) 388-3300

645-14

SCHOOL BUILDING ASSISTANCE AUDIT PROCEDURE

1. All Votes of the Town which pertain to the construction and equipping of the school project. These votes shall be certified by the Town Clerk. The above should consist of the following:

   A. All appropriations. This would include investigating, planning and other expenses incurred prior to the vote for a bond issue or acquiring funds in any other manner for the project, as well as subsequent appropriations for the completion of the project.

2. A. An originally signed copy of every architectural and construction contract.

   B. A signed copy of every change order to the architectural and construction contracts.

   C. A copy of the specifications for all prime contracts.

   D. A copy of every purchase order for equipment and furnishings, unless invoices properly describe the items furnished.

3. Submit a Final Form "F" (Form 645-16), on which is reported the actual cost of the project to the Town, and the method of financing.

4. Submit a Debt Schedule issued and signed by the bank where any of the bonds were issued supporting the actual interest cost as reported on the Form F.

5. A. Submit a "Schedule of Bills Paid" supporting the actual cost claimed on Form F. Invoices should be listed separately by vendor and by classification as listed on Form F.

   B. Classification Sub-Totals must equal amounts claimed on Form F.

   C. Copies of vendor invoices must be arranged in order of appearance on the "Schedule of Bills Paid."

6. A Vote of the School Committee accepting "The Project for School Purposes". Please note that only the vote of the School Committee is acceptable.

7/13/99

SCHEDULE OF BILLS PAID

TO THE MASSACHUSETTS SCHOOL BUILDING ASSISTANCE BUREAU

SHEET NO. ________

THE FOLLOWING BILLS PAID BY THE TOWN ________ CITY ________ REGION ________ FOR PROJECT NUMBER ____ ARE SUBMITTED:

DATE ________________

BY ________________ TITLE

BILL	CLASSIFICATION	VENDOR	AMOUNT	WARRANT NUMBER	CHECK NUMBER	DATE OF CHECK	NAME OF BANK
1							
2							
3							
4							
5							
6							
7							
8							
9							
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35							
36							
37							

WE HEREBY CERTIFY UNDER THE PENALTIES OF PERJURY THAT THE AMOUNTS AND ITEMS LISTED ABOVE ARE TRUE AND CORRECT

APPROVING AUTHORITY
(MAJORITY)

________________ ________________
________________ ________________
________________ ________________
________________ ________________

CITY/TOWN ACCOUNTANT/AUDITOR

CITY/TOWN MANAGER

MAYOR

DIRECTOR PUBLIC WORKS/BUILDINGS

TREASURER, REGIONAL SCHOOL DISTRICT

APPENDIX O

The Commonwealth of Massachusetts
Department of Education

350 Main Street, Malden, Massachusetts 02148-5023

Telephone: (617) 388-3300
TTY: N.E.T. Relay 1-800-439-2370

MEMORANDUM

TO:

FROM:

DATE:

SUBJECT: Audit Materials, Project No._______, City/Town_________

The subject audit materials have been received with the exception of those items checked below. Please submit the material immediately in order for us to complete the audit. Your cooperation will be appreciated.

Documentation:

1. Town votes pertaining to project, including town meeting and/or school committee. ________
2. Final Form F (SBAB-3.17) actual cost and plan for financing. ________
3. Interest debt schedule for bonding. ________
4. G1 sheets filled out by expense classification. ________
5. Copy of all contracts, signed. (Copy of contractor's proposal if contract cannot be found. ________
6. Copy of all change orders. ________
7. Copy of all vendor invoices approved for payment and purchase orders if invoices do not give a clear description of items. ________
8. Copy of school committee vote accepting project. ________

Comments:

645-16
12/98

Project No.______

APPENDIX O

Commonwealth of Massachusetts
SCHOOL BUILDING ASSISTANCE

Form F for Final Project Cost
File with School Building Assistance Audit Materials

LEA: ______________________________ **Date:** ______________

SCHOOL: ______________________________

Contact/Phone#: ______________________________

A. Final Project Cost Information

	Work in Existing Building	New Construction
General Contract	$________	$________
Architect's Fees	$________	$________
Equipment	$________	$________
Site Development	$________	$________
Other Costs (Itemize on reverse side Section D)	$________	$________
Totals for Each Column	$________	$________

Total Project Cost $______________

B. Project Financing Information
(Attach certified debt service schedule from lender)

Taxation	$________
Building Fund	$________
Other Sources (Itemize in Section E)	$________
Sale of Bonds/Notes	$________
Total Costs Financed From All Sources	$________

(over)

645-16
Pg. 2/2

C. Final Interest on Bonds and Notes

Term of Bonds/Notes______________________________ Years:______________
(If multiple borrowings, attach all debt service schedules)

Date(s) of Issue: _____/____/______, _____/____/______, _____/____/______

Actual Interest Rate: ________% Level Debt Service: (Y or N)________

Actual Total Interest Cost: $________________________________

D. Itemized of Other Costs

Item/Service	Existing Building	New Construction
____________________	$______________	$______________
____________________	$______________	$______________
____________________	$______________	$______________
____________________	$______________	$______________
____________________	$______________	$______________
Total Each Column	$______________	$______________

Total All Other Costs $________________________

E. Other Sources of Financing

Source	Amount Financed
Stabilization Fund	$____________
Other Grants	$____________
Gifts/Donations	$____________
_________	$____________
_________	$____________
Total From All Other Sources	$____________

Form F Completed by:_______________________________________ Date:_____/_____/______

Signature of the Treasurer: _______________________________________Date:_____/_____/______

THIS FORM MUST BE FILLED OUT COMPLETELY AND SIGNED BY BOTH PARTIES

APPENDIX O

APPENDIX O

SBAB-4-8
10/14/80
Revised 6/5/81

Commonwealth of Massachusetts
Department of Education
SCHOOL BUILDING ASSISTANCE BUILDING
1385 Hancock Street, Quincy, MA 02169

MEMORANDUM

TELEPHONE:
770-7238

Date:

TO: Director
School Building Assistance Bureau

FROM:

SUBJECT: Report of Audit Completed

I have this date completed an audit on the following School Building Assistance Project:

Project Number:
Community:
School:

As a result of this audit, I have determined the following:

	Estimated	Final	Difference
Approved Cost:	$	$	$
Grant:	$	$	$
Annual Payment:	$	$	$

The adjustment payment for prior year underpayment will amount to $

The annual credit for prior year overpayment will amount to $

Adjustment payment $

Signed:__________________________

Action

Send to BOE for approval:

Date:__________________ Hold:______________

Director

APPENDIX O

CALCULATION OF ADJUSTED SBA PAYMENTS AND FINAL PAYMENT SCHEDULE

Project No.:______ School District/School Name:____________________

Final Approved Construction Cost: $____________; Interest Cost: $____________

% Reimbursement for Construction ____________%; for Interest: ____________%

Total Grant for Construction $____________; for Interest: $____________

Final Total Approved Grant: $____________

Number of Payments to be Adjusted:

(1) Term of Bonds:______Years (If financed by means other than borrowing, the term is 5 years.)
(2) Number of Payments made to date: ____________
(3) Number of Payments included on Cherry Sheets to date ____________
(4) Total Number of Payments made on estimated grant (2 + 3): ____________
(5) Number of Payments to be Adjusted: (1 - 4): ____________

Grant Balance to be Adjusted:

(6) Payments made to date: $____________
(7) Amount of Payments included on Cherry Sheets: $____________
(8) Total Amount of Payments on Estimate (6 + 7): $____________
(9) Balance Remaining to be Adjusted (D - 8): $____________
(10) Adjusted Payments (9 divided by 5): $____________

Payment Schedule

No.	Amount of Payment	Due Date	Date Paid
1	$		
2	$		
3	$		
4	$		
5	$		
6	$		
7	$		
8	$		
9	$		
10	$		
11	$		
12	$		
13	$		
14	$		
15	$		
16	$		
17	$		
18	$		
19	$		
20	$		

IF AT ANY TIME DURING THE DETERMINATION OF THE FINAL COST OF ANY GRANT, IT APPEARS THAT MAKING ANY FURTHER PAYMENTS WILL RESULT IN AN OVERPAYMENT OF THE GRANT NOTIFY THE SCHOOL FACILITIES SERVICES BUREAU ASST. DIRECTOR IMMEDIATELY SO THAT ALL REMAINING PAYMENTS CAN BE PLACED ON HOLD PENDING FINALIZATION OF THIS GRANT.

SAS Staff:____________ Date:__/__/__ SFS Reviewer:____________ Date:__/__/__

The Commonwealth of Massachusetts
Department of Education

350 Main Street, Malden, Massachusetts 02148-5023 • (617) 388-3300

APPENDIX O

________________, 199__

________________________, Superintendent
____
____
____

Dear Superintendent ________________:

Chapter 645 of the Acts of 1948, as amended, requires the Board of Education to determine the final approvable costs of school construction projects receiving school building assistance. The School Governance Services Group has received your documentation for the ____, Project Number ________, and the audit has been completed. The results were as follows:

Original approved cost:	$	________
Original estimated grant:		________
Estimated annual payment:		________
Final approved cost:	$	________
Final grant amount:		________
Adjusted payments per audit:		________
Total increase in approved cost:	$	________
Total increase in final grant amount:		________

Reimbursement payments totaling $ ____________ have been made on this grant to date. The FY'___ Cherry Sheet estimate for this project of $______________ will result in a grant balance of $______________due over the . . remaining payments. Beginning in FY'____, each remaining SBA payment on project will be $______________.

________________________________ submitted $__________ in expenditures on this project. Under the provisions of Chapter 645, as amended, the cost of ________________________________
____
____
____
____
and some small miscellaneous items were disallowed.

wealth of Massachusetts
Department of Education

350 Main Street, Malden, Massachusetts 02148-5023 • (617) 388-3300

_______________, 199__

_______________________, Superintendent
____
____
____

Dear Superintendent _______________:

Chapter 645 of the Acts of 1948, as amended, requires the Board of Education to determine the final approvable costs of school construction projects receiving school building assistance. The School Governance Services Group has received your documentation for the ______________________________________, Project Number ________, and the audit has been completed. The results were as follows:

Original approved cost:	$ __________
Original estimated grant:	__________
Estimated annual payment:	__________
Final approved cost:	$ __________
Final grant amount:	__________
Adjusted payments per audit:	__________
Total decrease in approved cost:	$ __________
Total decrease in final grant amount:	__________

Reimbursement payments totaling $ ____________ have been made on this grant to date. The FY'___ Cherry Sheet estimate for this project of $_______________ will result in a grant overpayment. Therefore the remaining payment for FY 199___will be in the amount of $_____________ annually.

______________________________ submitted $__________ in expenditures on this project. Under the provisions of Chapter 645, as amended, the cost of ______________________________
____
____
____
____
and some small miscellaneous items were disallowed.

APPENDIX P

The Commonwealth of Massachusetts
Department of Education

350 Main Street, Malden, Massachusetts 02148-5023 Telephone: (781) 388-3300

MEMORANDUM

To: Jill Reynolds

From: Lurline Muñoz-Bennett

Date: August 20, 1999

Re: School Districts with Approved Voluntary Desegregation Plans

Chapter 636 Districts	Pre-approval Planning Funds and Magnet Education Funds	First Board Approved Date	Most Recent Revised Plan Approval Date
Boston	Several years 1965...	1975 Court Ordered	Jan. 1991(Voluntary Controlled Choice – Revised)
Brockton	1989, 1990 & 1995	April 1995	N/A
Cambridge	mid - 60s	1972 (Open Enrollment Plan)	March 1989
Chelsea	Early 80s	December 1989	N/A
Fall River	1976	February 1987	N/A
Fitchburg	1996	November 1997	N/A
Framingham	1996	June 1996	N/A
Holyoke	1981	June 1981	1993
Lawrence	Late 70s	1980	1988
Lowell	1970	1979	1995
Lynn	1980	1987	February 1990
Malden	N/A	April 1996	N/A
Medford	1965	1965	1999
Methuen	Early 80s	1986	1988
New Bedford	1970s	1976	1999
Northampton	Late 80s	1987	1992
Revere	80s	1986	March 1995
Salem	1986	April 1987	1989
Somerville	N/A	April 1994	N/A
Springfield	mid 70s	1974	1998
Waltham*	1997	*	
Worcester	mid 80s	May 1983	January 1990

* Currently preparing information to give to the Commissioner to request the submission of the Waltham Voluntary/Equity plan.

APPENDIX Q

Welcome to School Planning

Planning and Design for K-12 School Facilities in North Carolina.

The School Planning Section of the North Carolina Department of Public Instruction assists North Carolina school districts, architects and designers in the planning and design of high quality school facilities that enhance education and provide lasting value to the children and citizens of the state. Major areas of concentration consist of the following:

Plan Review & Commentary
Prototype School Design Clearinghouse
School Facilities Information
Planning Assistance
Publications and Workshops.
The State Bond for Public School Facility Needs.

Plan Review& Commentary

School Planning reviews plans for new schools, additions, and renovations. Design review helps to ensure that school facilities accommodate and facilitate educational programs. Comments made during review stress safety, longevity, durability, flexibility, economy, and efficiency of building construction systems. Comments take into account local program flexibility while providing accountability in regard to the State Boards of Education's ***North Carolina Public Schools Facilities Guidelines***. Usually, design review conferences are held at each design phase involving the designers, local unit facilities staff and the school planning staff of professional architects, engineers and educators. It is suggested that you schedule a meeting with the Office of the State Fire Marshall and then call School Planning at (919) 715-1990 to schedule a review on the same day.

Prototype School Design Clearinghouse

The 1996 North Carolina General Assembly directed the State Board of Education to establish a central clearinghouse for access by local boards of education that may want to use a prototype design in the construction of school facilities. This system is expected to result in cost and time savings in school design; provide broader access to architects that specialize in school design; and increase awareness of current trends in school design.

Jump to the **Clearinghouse**

School Facilities Information

A Facility Information Management System is being developed to provide planning tools and building data for local and state planning. This database consists of specific information on each school within a school district, including numbers and different types of classrooms, capacities, core facilities, types of construction, building age and other data useful in preparing long-range plans for improvements and analysis of an individual school district's facilities.

Planning Assistance

Planning assistance is provided to local units. This assistance includes publications such as the ***North Carolina Public Schools Facilities Guidelines,*** in which recommendations for all building elements and spaces of schools can be found. School Planning has developed computer-assisted tools for calculating needed spaces and sizes for new schools, based upon anticipated capacity. School Planning evaluates facility needs and provides analysis of specific building or site problems, with priority placed on small and low-wealth school systems. Instruction and guidance are available to assist all units with facility planning and self-evaluation. Current and historical school construction cost information is maintained and made available. School Planning provides technical assistance and authorization of state funding for school construction.

Jump to **School Planning Staff**

Publications and Workshops

School Planning has prepared numerous guide and reference publications on various aspects of K-12 school planning and design. These publications are updated periodically and new versions are placed on this web site. State educational planners, architects, engineers, and schools of education and architecture are partnered in the development of these publications. The staff of School Planning provides workshops and presentations on facility design, planning, and management to a wide variety of groups with interest in educational facilities.

Jump to **Publications & Guides**

The State Bond for Public School Facility Needs

Based upon a comprehensive study of School Facility needs across the state, the 1996 North Carolina Legislature approved a referendum for the issuance of one billion eight hundred million dollars ($1,800,000,000) in general obligation bonds for the construction of school facilities. This referendum was approved by the citizens in November of 1996. The first bonds were sold and money became available in March of 1997.

Jump to **The State Bond Law** Jump to **State Bond Funded Prototype Designs**

For questions or comments, contact Steve Taynton
E-Mail: staynton@dpi.state.nc.us

Last updated: August 11, 1999

APPENDIX Q

East Burke Elementary

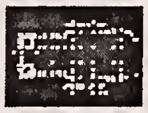
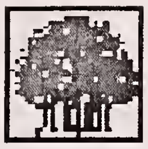

Floor Plan |

Site Plan |

Photo-View |

Project Main Page

Project and Designer Information:	
Administrative Unit:	Burke County
School Information:	**East Burke Elementary**
Property (DSP) No:	120-4214
Design Capacity:	730 Students
Core Capacity:	623 Students
Grade Organization:	K-5
Architect:	Cort Architectural Group PA 239 Haywood Street, Asheville, NC 28801 Phone: 828-251-5100 FAX: 828-252-8535 Email: plan@cortaia.com

Other Recent Prototype Locations:
Times Prototype has been Constructed : 2
West Burke Elementary, Burke County

Construction Costs & Building Area:	
Date Bids Received:	4/28/98
Construction Bid Cost:	$6,003,350.00
Architectural Building Area:	83560sq.ft.
Assignable Area	56876sq.ft.
Assignable To Total Architectural Area Efficiency	68.10%
Cost per Assignable Square Foot	$105.55
Cost per Total Architectural Square Foot	$71.84
Cost per Student	$7,899.14
Special Costs Included in Bid	$0.00
Description of Special Costs: N/A	
Special Features:	
Total Building Footprint (total all floors) Area	73500sq.ft.
Site Acreage:	22

Construction Information:	
Building Code Construction Type:	Type IV UP
Construction Description:	Load bearing masonry, steel joists
Roof:	High Slope shingles, Low Slope EPDM
Number of Floors:	1
Number of Separate Buildings:	1
Heating Fuel:	Natural Gas

APPENDIX Q

Heating & Air Conditioning:	4-pipe boiler/chiller
Technology Infrastructure:	Fiber Backbone w/ Cat VE Drops

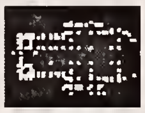
Design Consultants:	
Landscape:	Jerald A. Snow Asheville, NC 28801
Structural:	Sutton Kennerly & Associates Asheville, NC 28814
Electrical:	U. E. G., Inc. Charlotte, NC 28204
Plumbing/Mechanical:	U. E. G., Inc. Charlotte, NC 28204

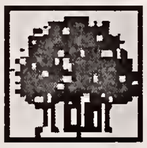
Designer and Owner Comments:

Designer Comments: The bidding process for these Burke County elementary schools offered the owner a range of choices: from maximizing economy by accepting a Base Bid costing $68.70 per square foot, to maximizing quality by adding 20 Alternate Bids for a total cost of $76.50 per square foot. (Costs based on 73,500 s.f. gross building floor area, site work excluded). Two of these prototypes are now under construction. As a special note, Burke County Schools mandates 18 students/class in K-1. 1st Grade classrooms are sized at 850 sq. ft. to reflect this size. Working in concert with the owner the architects achieved an economical Base Bid by conducting an exhaustive re-examination of traditional practices in school design and construction methods -- not by eliminating program space or sacrificing construction quality. The Base Bid provides a building complying with N.C. Public Schools Facilities Guidelines. The buildings are non-combustible construction with masonry bearing walls and steel framed roofs. The Base Bid also inclued a durable exterior finish of patterned split-face block with glazed brick detailing, a 48' long skylight in the Main Lobby, and a circus theme dining room with a circus parade mural and a fabric "big top" ceiling. Because of the economies achieved under the Base Bid, the owner was able to accept 20 Alternate Bids including an enlarged drop-off canopy, landscaping, wall coverings, terrazzo, stage curtains and upgraded plumbing, mechanical and electrical systems.

Owner Comments:

The plans and designs published herein are the property of the named designer of record. Any use, other than incidental printing for further study, is prohibited without the express written consent of the designer.





Floor Plan | Site Plan | Photo-View | Project Main Page

Peer State Analysis

Information from the following states was obtained for this analysis: Connecticut, Michigan, New Hampshire, New York, North Carolina, Ohio, Pennsylvania, and Texas. These states were chosen for comparison because they are considered Massachusetts' peer states. Massachusetts' peer states fall into two categories – the New England states and the industrial states. These states fall into at least one of the two categories and were responsive to our request for information on their programs.

Results of the Analysis

1. Massachusetts has a construction program that is both historically generous and more generous on a project by project reimbursement basis than most states. Many states have just recently instituted school building assistance programs, for example, programs in Texas, Connecticut and Illinois have all been instituted during the 1990's.

Pennsylvania contributes a per pupil amount which is equal to 26-34% of what Massachusetts reimburses for school buildings. New York reimburses 49-95% of the total project cost; CT reimburses 20-80% of the total project cost; Michigan has a loan program only; New Hampshire reimburses 30-55% of the cost of principal; Illinois reimburses 35-75% of total cost in a 5 year limited program; North Carolina issues state bonds intermittently. Ohio has replaced an existing program with a new program for which $350 million was appropriated in 1997. Cost calculations indicate that approximately 90% of the cost of schools funded through this program were paid by the state.

2. Although Massachusetts has more extensive SBA regulations that many states, the program generally defers to local option. Other states that defer to local option generally require greater local financial contribution which leads to 1) less cost exposure for the state; and 2) greater incentive for the local government to rein in the project costs.

Our review of these programs has identified many similarities among the programs. For example, none of the states that were examined offer incentives for third party funding, or have alternative reimbursement rate ideas for their programs. Also, none of the states reviewed offer bonuses for early completion of the projects. With the exception of Ohio, none of the states require the use of construction managers in the construction process. Finally, we found that Massachusetts was the only state in this category that had open space requirements when constructing new school facilities.

CONNETICUT

The current program consists of a board of five members that reviews and approves the submitted proposals. Approval is primarily based on space limitations and eligible vs. ineligible costs (ineligible - primarily repairs/maintenance). There are space standards and eligible costs in place. Renovation and new construction projects are considered equally, the program requirements do not favor one over the other. The program will reimburse for land purchase, but there is a limit on the number of acres that are reimbursable. Reimbursement rates are calculated each year based on a statutory calculation which factor community wealth. Communities are reimbursed 20-80%. The Magnet and Vocational/Agricultural schools are reimbursed 100%. The state reimburses for furniture and equipment, but not for books, supplies, or software. State aid is modeled as a pay as you go system, and currently, no waiting list for reimbursement exists.

MICHIGAN

The Office of the State Treasurer oversees the School Bond Loan Program, which was established in 1955. The state does not provide direct grants to communities but rather issues bonds to the communities at favorable rates. Bonds are issued only for capital outlay; therefore, no maintenance work can be done with this money. Local government officials meet with School Bond Loan Program officials for preliminary qualification of a project. Reasonable standards of cost and projected enrollment must be considered. Construction managers are not required; however, architects must certify all projects. Typically, independent consultants affiliated with Michigan State calculate enrollment projections for the municipalities.

NEW HAMPSHIRE

The construction reimbursement program was established in the 1950's to encourage consolidation and regional schools. The State reimburses a percentage of the bond payments (principle only) over the life of the bond. The state does not reimburse for leased space, but will reimburse for renovations, land and building purchases, new construction, and additions. Districts are reimbursed 30-55% of principle depending on how the district is organized. This method favors cooperative districts. A single district receives 30%. Cooperative districts receive 40% + 5% for each school district in the cooperative above 2. In order to handle over run/change order costs they have a very tight review process at the state level. CEFPI standards are not followed, but are highly recommended guidelines. Approximately 60% of the state's school building projects involve new construction compared to 40% for renovations.

NEW YORK

The Office of Facilities Planning provides building aid, certain approved capital outlays and debt service for school buildings housing elementary and/or secondary students and for bus garages to local communities. A project is eligible for aid, if the construction cost is equal to or greater than $10,000, excluding incidental costs. State aid can range from 49%-95% of building costs. The total approved cost allowance is the sum of the construction cost allowance plus the incidental cost allowance. This formula accounts for a pupil construction cost, which is adjusted monthly, the assigned pupil capacity for the building, and the district's building aid ratio. Building Aid Ratio is determined annually for each individual school district, based on the true value of property in the district and the number of students in the districts. Districts can choose their highest building aid ratio since 1981 for use in the reimbursement calculation. Additions to program include (effective 7/1/98): an increased cost allowance for districts in high construction cost areas, a 10% increase in state aid for approved projects, a 25% increase on an approved project for districts that reorganize prior to July, 1983 and 30% to districts that reorganize prior to July 2000. In no case, however, may the sum exceed 95%. Funding is based on factors such as age of facilities and long term enrollment growth. Districts may hire consultants to calculate enrollment growth or use their own staff. The state anticipates $50 million in building aid for each of the school years of 1998-99 through 2000-01, and $80 million for 2001-02.

NORTH CAROLINA

Historically, local governments were solely responsible for providing public school facilities. In 1949, growing facility needs outpaced local resources, and as a result, the North Carolina Board of Education appointed a Public School Facilities Task Force to oversee the funding of school buildings. Eligibility for state aid is based on a formula that takes into account wealth, high growth, and number of students. Reimbursement percentage depends on local's match. The Task Force recommends 2% of the replacement cost be used for maintenance. The state administers a fairly tight review process in order to eliminate over run/change order costs problems down the line. The CEFPI space guidelines are loosely followed during construction. Approximately, 30% of the submitted projects involved the construction of new buildings, 30% involve additions, and 40% involve renovations.

OHIO

The Classroom Facilities Assistance Program was initiated in 1957. Currently, the state administers two Classroom Assistance Programs. The first has funded 41 projects since 1990. The current classroom assistance program was passed in 1997 and requires that the lowest equity districts receive funding first. Since it's creation, 14 of 16 districts have passed initiatives for projects. The program is administered by the Commission on School Facilities, which is responsible for the funding, management oversight, and technical assistance for construction and renovation projects. The commission includes 7 members: the Director of the Office of Management and Budget, the State Superintendent of Public Instruction, the Director of the Department of Administrative Services, and 4 members of the legislature (a senator from each party and a representative from each party.) The screening committee is also staffed with technical expertise in architecture and engineering to review applications. Ohio has an extremely long waiting list. Up to $30 million has been set aside to develop a program for low wealth districts with exceptional need that will not be served under the Classroom Facilities Program in the next three fiscal years.

PENNSLVANIA

Plan Con is the state's school construction reimbursement process. The Division of School Facilities reviews projects and calculates state reimbursement. A project to an existing building, which is less than 20 years old, is not eligible for state aid. A renovation project is reimbursable if the cost to bring the existing building to current standard is equal to or greater than 20% of its replacement value. Reimbursement is based on capacity of the building, which is justified by present or projected student enrollment. This capacity is then converted to a rated pupil capacity, which is multiplied by a legislated per pupil dollar amount and compared to the structure costs plus the architect's fees and essential fixtures and equipment. The reimbursement amount is calculated on the lesser of these amounts. Essential fixtures and equipment are included in the reimbursement calculation. The program requires DOE approval of plans for public school construction or reconstruction and for maintenance of a value greater than $15,000. State law prohibits school districts from entering construction contracts prior to DOE approval of plans and specifications. The state favors renovation over new construction projects, 80% of projects reimbursed involve work on existing buildings. The same level of reimbursement is given to renovations or new construction, but since renovations usually costs less, despite the greater number of renovations conducted, more funding may be distributed for new construction than renovations in a given year.

TEXAS

Until 1997 when the legislature authorized a school building assistance program for the first time, the Instruction Facilities Allotment Program, districts were solely responsible for school construction and planning. (The program was initiated as a result of a lawsuit against state for inadequate school funding.) The Instruction Facilities Allotment Program provides assistance to districts in making debt service payments on bonds and lease-purchase agreements. In order to be eligible for funding municipalities must submit an application to the Texas Education Agency. Once the application is approved, Before this program, the Tier II program was available. This option remains open to districts that want to maximize their Tier II yield, but districts may not leverage state aid from both programs. The Board of Education does have a waiting list, which is prioritized annually. Texas reprioritizes based on the wealth of the district with the lowest income communities receiving top priority. The state uses existing building codes formulated by the local building authority. Last year approximately 200 million dollars was issued for school building projects. This funding has yielded 279 new campuses, 299 additions/renovations, 262 additions and 424 renovations.

Possible Components of a Maintenance Program

Conduct Base-Line Assessment

To ensure that school districts have appropriate maintenance procedures in place, each district should conduct a base-line assessment of their maintenance program. During this assessment, each districts should assess maintenance procedures, major building components, equipment, machinery, funding, operation manuals, school board priorities, and personnel. The assessment will provide detailed information that maintenance departments can use to enhance the delivery of services.

I. Review all major building components and maintenance records

- All school districts should perform a thorough examination of their facilities. This examination will include identifying all major building components (roof, elevators, electrical system, generators, etc). As part of the examination process school districts should catalogue the current condition of each component.

- The school district should also review and catalogue all maintenance records and work orders. This will allow districts to develop a history of the maintenance performed on each major component.

II. Review existing staffing - School districts should compile a list of all maintenance and custodial personnel employed. Compiling this information will help school districts make informed decisions when hiring new or engaging the services of a vendor. This should include:

- Ensure that all job descriptions exist and are appropriate;
- Identify positions classified as union to determine what functions those employees are allowed to perform under their collective bargaining unit and the law; and
- Identify staff vacancies.

III. Review vendor contracts - All vendor contracts should be periodically reviewed to ensure quality work is being performed. When allowable performance measures should be included in contract agreements with vendors.

IV. Develop a five-year rolling maintenance plan - School districts should develop and maintain a five-year rolling maintenance plan. In order to develop this plan school districts will need to:

- Review past maintenance spending patterns;
- Review their present year budget;
- Review their comprehensive catalogue of maintenance work – this catalogue will help identify future major costs; and
- Determine the funding needed for extraordinary maintenance.

Organize Maintenance Information

In order to ensure that all machinery and major components are maintained properly school districts should establish a library of relevant and applicable manuals, regulations, codes, and procedures. In addition, the Department of Education and the Department of Public Health will provide information to school districts on issues such as maintenance standards, health, environmental and programs available to school districts.

Develop Customized Preventative Maintenance Checklist

The school's maintenance department should develop a preventative maintenance checklist that is customized to the unique characteristics of the school building. We will include an appendix that provides recommendations for developing this checklist, and maybe an electronic checklist that districts can modify for their own use. The checklist would serve as a tool for maintenance staff to use on a daily basis to plan their work and identify projects scheduled for maintenance. The checklist would likely include:

- A required frequency of inspections;
- Measurements needed;
- Special testing needed;
- Other action required - (changing filters, changing oil, etc).;
- Record of parts used; and
- Identify equipment inventory that will be maintained under the preventative maintenance program.

Develop Maintenance Inspection Questionnaire

In addition to the preventative maintenance check list described above, the school district should develop a maintenance inspection questionnaire to be used periodically - by maintenance staff and administrative officials - to assess the quality of the maintenance program and the overall quality of building systems. This questionnaire would cover items such as the condition of the carpet, cleanliness of the facility, compliance with ADA requirements, energy savings opportunities, etc. The questionnaire might also include an assessment of the percentage of preventative maintenance projects completed.

Implement the Preventative Maint. Check List and Conduct Inspections

The maintenance staff would use the preventative maintenance checklist on a day-to-day basis, and would use the inspection questionnaire on a less frequent basis – e.g., annually. As the staff uses the preventative maintenance checklist and as inspections are conducted, the maintenance staff will be able to identify maintenance needs and priorities.

Identify and Prioritize Needs

Based on the preventative maintenance checklist and the maintenance inspection, the maintenance staff would identify and prioritize all maintenance work required. The department would categorize maintenance needs (and rank according to priority) into different categories, which may include:

- Routine maintenance;
- Environmental Health and Safety Standards;
- Code Violations
- Preventative maintenance; and
- Extraordinary maintenance.

Develop Maintenance Reporting System

The maintenance department will assess the efficiency of the existing maintenance reporting system. Depending on the size of the school system, the maintenance department might consider:

- Developing a maintenance hot line for parents, staff, and students to report problems.
- Developing an electronic maintenance records management system. Such a system would allow districts to receive, catalogue, monitor, and schedule all work electronically.

Manage Contingencies

Based upon the routine maintenance inspections, daily observations, and the feedback received through the central reporting system, the maintenance department will occasionally experience unexpected maintenance tasks. Depending on the priority of the contingency, a scheduled task may need to be rescheduled to make room for the new task.

Conduct Peer or Community Inspection

As a means of enhancing community awareness and support of school maintenance issues, the maintenance department may consider involving parents or other members of the community in some of the routine inspections. School districts should be encouraged to seek out and develop innovative programs to improve the awareness and quality of their facilities. For example having a School Pride Day where business and other members of the community donate time and money to improving the school. Districts could submit periodic commentary in local paper about the building and actively engage the school committee, superintendents' office and parent teacher organizations.

Monitoring of Maintenance Plans by the Department of Education

Periodically, the Department of Education will send a survey to school districts that will request information:

- To assess the quality of the district's maintenance program.
- To compare the district's program with the model maintenance plan.
- To request more detailed information about individual schools.
- Included in Appendix B are copies of both surveys.

This information will allow the Department of Education to review the quality of the maintenance programs, as compared to the model maintenance plan recommended by the state. In addition, it will allow the Department to catalogue all schools and their present condition. This information (age of schools, condition of roof, etc.) will help the department project future school related costs.